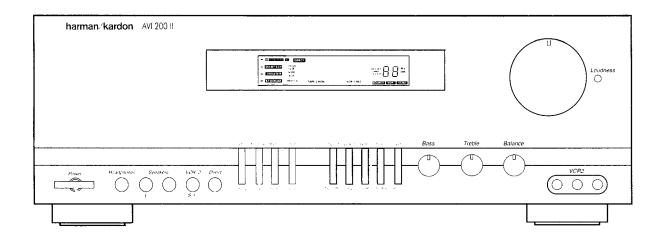
The Harman Kardon Model AVI200MKII

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AUDIO AND VIDEO AMPLIFIER

Technical Manual



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SPECIFICATIONS

FRONT AMP SECTION		•
	Nominal	Limit
RMS Output Power		
THD (0.2%, 8 ohms, 1 kHz)	≥ 68 W	≥ 65 W
Both Channel Driven (20 Hz - 20 k	•	
THD (20 Hz - 20 kHz) at 65 W, 8 ohr		
20 kHz	≤0.09%	≤0.2%
1 kHz	≤0.09%	≤0.2%
20 kHz	≤0.09%	≤0.2%
IM Distortion at 65 W, 8 ohms		
60:7000 Hz = 4:1	≤0.1%	≤ 0.2 %
Input Sensitivity at 65 W, 8 ohms		
PHONO (MM)	$2.5\pm0.2~\text{mV}$	$2.5\pm0.3~\text{mV}$
CD, AUX, VCR	150 \pm 20 mV	150 \pm 30 mV
S/N Ratio Input Shorted at Volume M	ax.	
(WTD IHF-A) at 65 W, 8 ohms		
PHONO	≥72 dB	≥ 65 dB
CD, AUX	≥91 dB	≥ 85 dB
TV, VCR1,2	≥91 dB	≥ 85 dB
Phono Overload at 1 kHz, THD: 0.5%	6	
Phono Input→Tape Monitor Outpu	t	
	≥ 140 mV	≥ 120 mV
Phono Equalization (RIAA 30 Hz - 15	kHz)	
Tape Monitor Output	RIAA \pm 1.0 dB	RIAA \pm 2.0 dB
Tone Control		
Bass: 100 Hz	+10 ± 1.0 dB	$+10 \pm 2.0 \text{ dB}$
	$-10 \pm 2.0 \text{ dB}$	-10 <u>+</u> 3.0 dB
Treble: 10 kHz	$+10 \pm 1.0 \text{ dB}$	$+10 \pm 2.0 \text{ dB}$
	-10 ± 2.0 dB	-10 ± 3.0 dB
Loudness Contour at -40 dB		
100 Hz	+6 <u>+</u> 2.0 dB	+6 ± 3.0 dB
10 kHz	+3 + 2.0 dB	+3 + 3.0 dB
Frequency Response at 1 W, 8 ohms	s	_
CD/AUX	. 10 dB	. 2045
20 Hz, 20 kHz	± 1.0 dB	\pm 2.0 dB
Channel Crosstalk Input Shorted at 6	•	- 40 dD
1 kHz	≥ 55 dB	≥ 48 dB
10 kHz	≥ 45 dB	≥ 37 dB

Nominal	Limit
≥ 68 W	≥ 63 W
≥ 75 dB	≥ 68 dB
130 Hz - 20 kHz	180 Hz - 15 kHz
40 Hz - 20 kHz	60 Hz - 15 kHz
	≥ 68 W ≥ 75 dB 130 Hz - 20 kHz

REAR AMP SECTION		
	Nominal	Limit
RMS Output Power		
THD (1%, 8 ohms, 80 Hz - 7 kHz)	•	
Both Rear Channel Driven	≥ 27 W	≥ 23 W
S/N Ratio (Input Shorted, IHF-A WT	TD)	
Dolby	≥ 65 dB	≥ 57 dB
Stadium	≥ 65 dB	≥ 57 dB
Theater	≥ 65 dB	≥ 57 dB
Frequency Response at -3 dB		
8 ohms, Dolby Pro-Logic	100 Hz - 6 kHz	120 Hz - 5 kHz
	Nominal	Limit
Innut Canaitivity/Impadance	NOMIMA	LITTIL
Input Sensitivity/Impedance	4.V 77E 0	. 0 5 40
VCR1, VCR2, VDP	1 $V_{P-P}/75 \Omega$	\pm 0.5 dB
Output Level/Impedance VCR1, REC out, TV Monitor out		
	1 $V_{P-P}/75 \Omega \pm 0.3 d$	+ 1.0 dB
Frequency Response at -3 dB	DC-10 MHz	5 - 6 MHz
Crosstalk at 1.0 MHz	≥ 50 dB	≥ 43 dB
GENERAL Power Consumption;		
USA/Canada		2.5 A
Europe		650 V
Power Supplies;		650 V
USA/Canada		AC 120 V, 60 Hz
Europe		AC 230 V, 50 Hz
Dimensions (W \times H \times D);		17 ^{3/8} × 6 ^{1/8} × 16 ^{1/3}
inches		
mm		440 × 155 × 420
Weight (lbs/kgs)		26.9/12.2

These specifications are service target specs.

Specifications and components are subject to change without notice.

Overall performance will be maintained or improved.

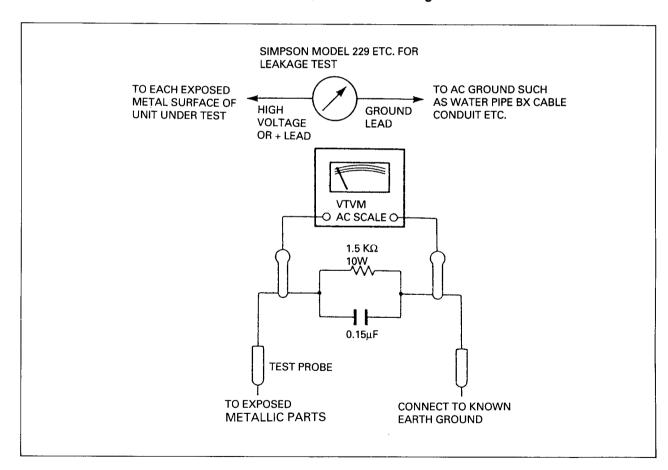
LEAKAGE TEST

Before returning the unit to the user, perform the following safety checks:

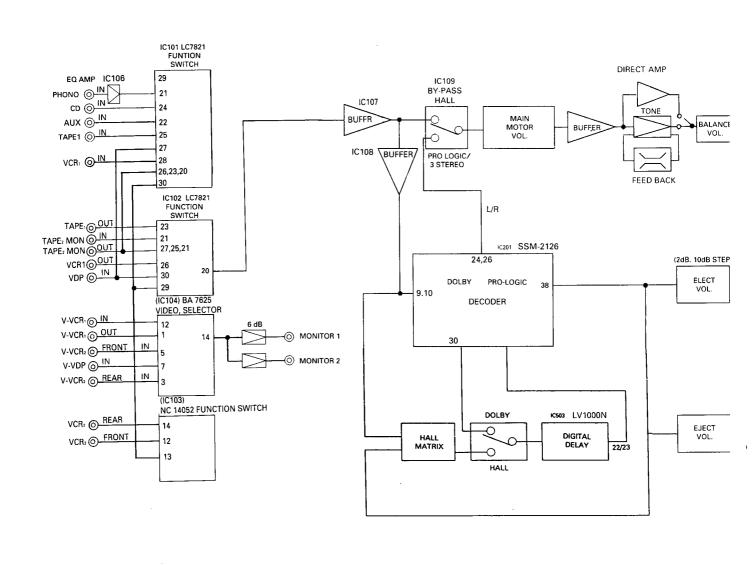
- Inspect all lead dress to makes certain that leads are not pinched or that hardware is not lodged between the chassis and other metallic parts in the unit.
- Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. Which were removed for servicing are properly reinstalled.
- Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows: Plug the power cord directly into a 230-volt AC receptacle (do not use an Isolation Transformer for this test).

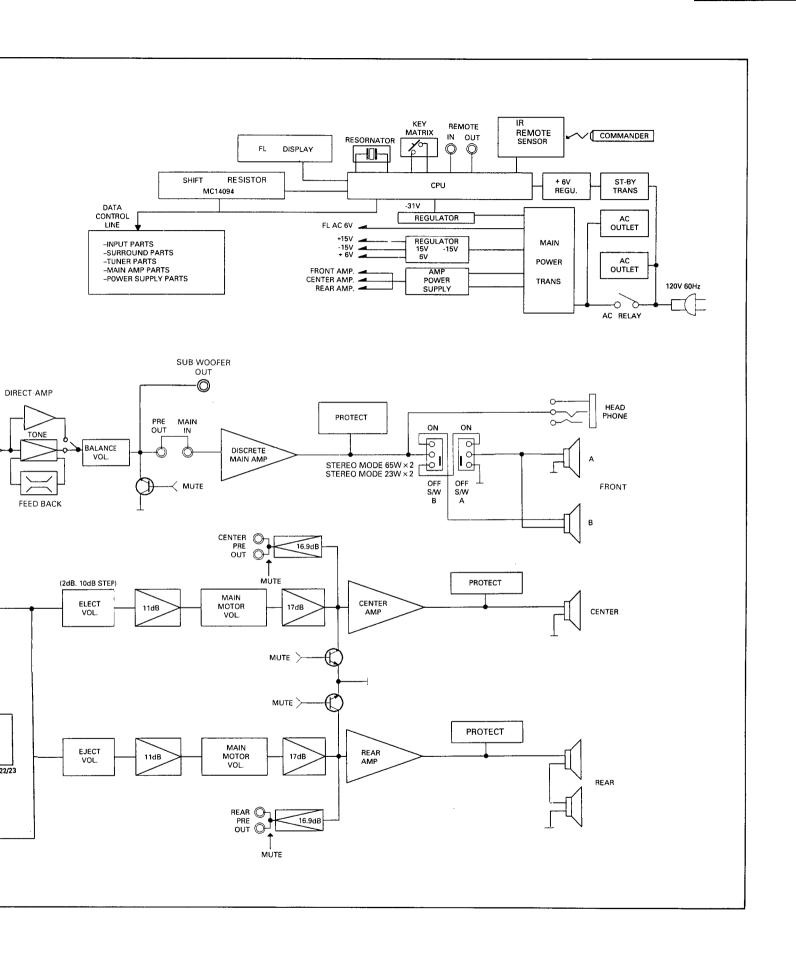
Using two clip leads, connects a 1500 Ohm, 10-watt resistor paralleled by a 0.15 µF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, kncbs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.)

A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.



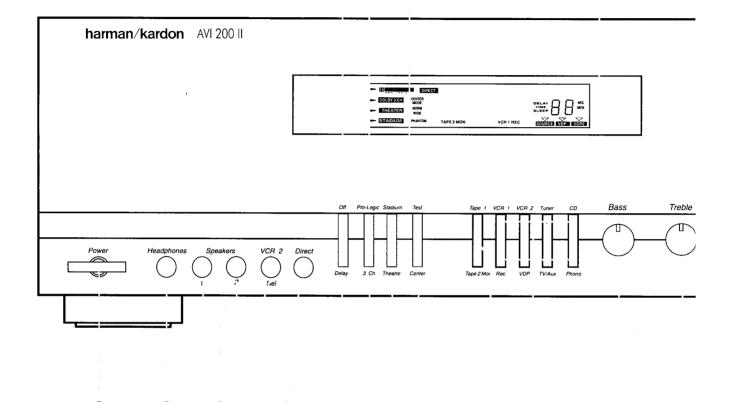






CONTROLS AND FUNCTIONS





1. POWER BUTTON

Press this button to turn the power on. Press again to turn the power off. It can also be used as a system power button, if you connect the other components to the switched outlets.

NOTE: In POWER OFF state, the POWER indicator will light up orange and power is partially supplied to the infrared remote control receiver and the memory circuitry.

2. 1/2 SPEAKER SWITCHES

These switches allow you to select various combinations of speakers as follows:

- To drive 1 pair of speakers, push only the speaker 1 switch in.
- To drive a second pair of speakers, push only the speaker 2 switch in.
- To drive both pairs of speakers, push both 1 and 2 switches in.

 To use headphones for private listening or monitoring, leave both 1 and 2 switches pushed out.

NOTE: If both speaker switches are pushed in and only one set of speakers is connected to the amplifer, no sound will be heard.

3. HEADPHONE JACK

(17)

Stereo headphones can be plugged into this jack for private listening. Headphone impedance should be between 8 and 2K ohms. Best results between 200 and 400 ohms.

4. BASS CONTROL

Modifies the low-frequency sound of the left and right channels as much as +/- 10dB. Set this control at a suitable position for your taste and room acoustics.

5. TREBLE CONTROL

(15)

(16)

Modifies the high-frequency sound the left and right channels as much +/- 10dB. Set this control at a suitiposition for your taste and room acoustics.

(5)

6. BALANCE CONTROL

This control is used for balancing the relative sound volume of the left and right channel speakers. Clockwise rotation reduces the volume from the left speaker, counterclockwise rotated reduces the volume from the right speaker.

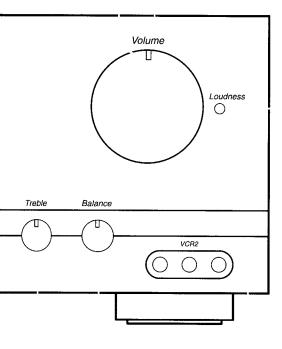
7. SURROUND-OFF MODE SELECTOR

Press this switch to select normal stereo mode.















ncy sound of

OL

ls as much as ol at a suitable nd room

TROL

palancing the the left and Clockwise ime from the kwise rotation the right

MODE

ct normal

8. DELAY TIME

Adjusts time delay between front and rear channels, operates only when the surround mode is on. (see Delay Time button on page 16).

Adjusts the surround delay time in steps. For Dolby Surround 20ms is standard

→ 16ms → 18 ms → → 28 ms → 30 ms -

9. PRO LOGIC MODE

Press this button for Pro-Logic mode.

10. 3 CHANNEL MODE

The 3 channel mode can be used when rear speakers are not being used to provide a center (dialog) channel.

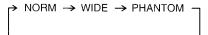
11. STADIUM/THEATER MODE

Switches for selecting desired surround mode; Stadium or Theater. See Surround Sound Effects on page 13.

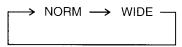
12. CENTER MODE SELECTOR

This button operates only in Dolby Pro Logic and Dolby 3 Stereo mode. The mode changes as below, when the button is pressed in succession.

DOLBY PRO LOGIC MODE



DOLBY 3 STEREO MODE



The display window shows each mode.

NORM: Select this mode if you use a small center speaker. The bass sound of the center channel is reproduced from the front speakers, because the small speaker cannot produce enough bass.

WIDE: Select this mode if you use a medium-to-large center speaker. The bass sound is reproduced from the center speaker.

PHANTOM: Select this mode if you don't use a center speaker. The center speaker's sound is reproduced from the front speakers.

13. TEST TONE BUTTON

This button operates only in Dolby Pro Logic and Dolby 3 Stereo mode. When the button is pressed, 2 seconds of test tone is generated in all channels (Left, Center, Right, and Rear) in succession. The display window shows TEST Left, Center, Right, and Rear in succession (in Dolby Pro Logic mode) or Left Center or Right (in Dolby 3 stereo mode) in succession. Use this button to test speaker connections.

14. SOURCE/DIRECT BUTTON

This feature bypasses the tone control circuitry, resulting in flatter frequency response and wider bandwidth. When it is activated, "DIRECT" illuminates in the display.

15. TAPE 2 MONITOR BUTTON

Set TAPE 2 MON to the "off" position when you want to hear the other input functions. Press this button to monitor the cassette deck connected to the TAPE 2 MON input jacks.

16. INPUT FUNCTION SELECTOR

Press the button to select the desired input function: VCR 1, VCR 2, VDP, TAPE 1, TV/Aux, Tuner, CD or Phono.

To dub from VCR 2 to VCR 1, press the VCR 2 button and then press the VCR 1 REC button.

For the input function of VCR 1 press the VCR 2 button and VCR1 DUBBING button. Set the recording VCR (VCR 1) to recording mode. Set the playback VCR (VCR 2) to playback mode.

Dubbing will start.

To hear another input source during video tape dubbing: Press the input function you want to hear, and play the input source.

17. VCR 2 SELECTOR

Push in this button to select the VCR 2 jacks on the front, rather than the VCR 2 jacks on the rear.

18. VCR 2/CAMCORDER **INPUT JACKS**

VIDEO IN:

Connect to the VIDEO OUTPUT jack of a VCR.

AUDIO IN:

Connect to the AUDIO OUTPUT jacks of a VCR.

19. LOUDNESS BUTTON

Press this button to compensate for the response of the human ear at low listening levels (known as the Fletcher-Munson hearing curve). The high and low frequencies are automatically boosted when this button is pushed in. In the OFF position, the frequency response is flat at all volume levels. This button does not work at high volume levels.

20. VOLUME CONTROL

Turn the VOLUME clockwise to increase the volume and counterclockwise to decrease it. The volume of the front, center, and rear channels is changed at the same time.

21. VOLUME LEVEL **INDICATOR**

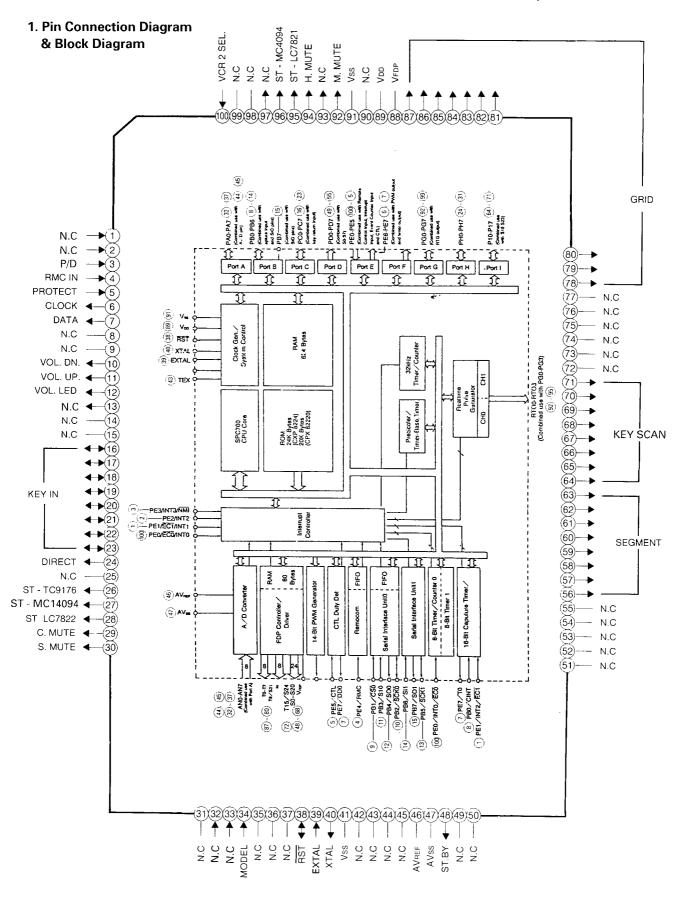
This indicator moves in accordance with the volume level. The indicator blinks when the mute button on the remote commander is pressed.

22. DISPLAY WINDOW

This window shows the state of operation for easier control of the amplifier. It also contains the IR Remote Sensor.

CIRCUIT DESCRIPTION

CPU (IC801): CXP82220-107Q (8 bit SINGLE-CHIP MICROCOMPUTER)



2. Pin Functions

Pin No.	Symbol	Description
1/2	N.C	Not used!
3	P/D	Input to detect power down. (At "L", it is active.)
4	RMC IN	Input for remote control signal. (At "L", it is active.)
5	PROTECT	Signal input for protection. (At "L", it is active.)
6/7	CK / DA	Clock / Data output for LC7821, GD4094, TC9213 and LM7001.
8/9	N.C	Not used !
10	VOL. DOWN	Output to drive volume motor for decreasing volume level.
		(At "H", it is active.)
11	VOL. UP	Output to drive volume motor for increasing volume level.
		(At "H", it is active.)
12	VOL. LED	Output to drive volume LED.
13~15	N.C	Not used!
16 - 23	KEY IN	Data input for key scan.
24	DIRECT	Output to allow sound signal to by-pass tone control circuitry.
		(At "H", it is active.)
25	N.C	Not used !
26	ST-TC9176	Chip enable output for TC9176.
27	ST-MC14094	Chip enable output for MC14094.
28	ST-LC7822	Chip enable output for LC7822.
29	C. MUTE	Output for center mute.
		Output, "H" under the following conditions.
		1. When power is turned on or off.
		2. When center mode is turned on or off.
		3. When center mode is selected.
		4. When test tone mode is on or off or when the channel is changed
		in the test tone mode.
		5. When the protection terminal's level is "L".
		6. When "-∞" mute signal is received from the commander.
30	S. MUTE	Output for surround mute.
		Output, "H" under the following conditions.
		1. When power is turned on or off.
		2. When surround mode is selected.
		3. When test tone mode is on or off or when channel is changed
		in the test tone mode.
		4. When adjusting delay time.
		5. When the protection terminal's level is "L".
		6. When "-∞" mute signal is received from the commander.
31~33	N.C	Not used !

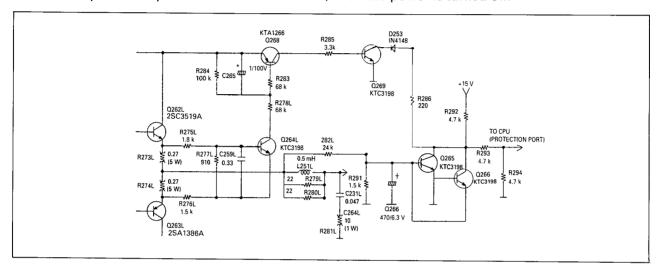
Pin No.	Symbol	Description
34	MODEL	Input to select. (At "L" is selected).
35 - 37	N.C	Not used ! (Connected to V _{DD})
38	RST	Input to reset CPU.
39	EXTAL	Input for crystal osillator.
40	XTAL	Output for crystal osillator.
41	V_{SS}	Ground.
42	N.C	Not used!
43 - 45	N.C.	Not used ! (Connected to V _{DD})
46	AV_{ref}	Reference voltage. (Connected to 5 V, not V _{DD} .)
47	AV _{SS}	Ground.
48	ST.BY	When power is on, control data output is "H".
		When power is off, control data output is "L" and last memory
		function is activated.
49 - 55	N.C	Not used!
56 - 63	SEGMENT	Segment signal output for FIP.
64 - 71	SEGMENT / KEY SCAN	Segment signal output for FIP and Data output for key scan.
72 - 77	N.C.	Not used!
78 - 87	GRID	Grid signal output for FIP.
88	V_{FDP}	Power supply for FIP controller.
89	V_{DD}	+5 V power supply.
90	N.C	Not used!
91	V_{SS}	Ground.
92	M. MUTE	Output for main mute.
		Output is "H" under the following conditions.
		1. When power is turned on or off.
		2. When function is changed.
		3. When the protection terminal's level is "L".
		4. When "-∞" mute signal is received from the commander.
93		Not used!
94	H. MUTE	Output for headphone mute.
		Output, "H' under the following conditions.
,		1. When power is turned on or off.
		2. When selecting the input function.
		3. When the protection terminal's level is "L".
		4. When "-∞" mute signal is received from the commander.
95	ST-LC7821	Chip enable output for LC7821.
96	ST-MC4094	Chip enable output for MC4094.
97~99	N.C	Not used!
100	VCR 2 SEL.	Input to select VCR 2 rear or front.
		At "H", VCR 2 rear is selected and at "L", VCR 2 front is selected.

3. Protection Circuits

Speaker Protection Circuits

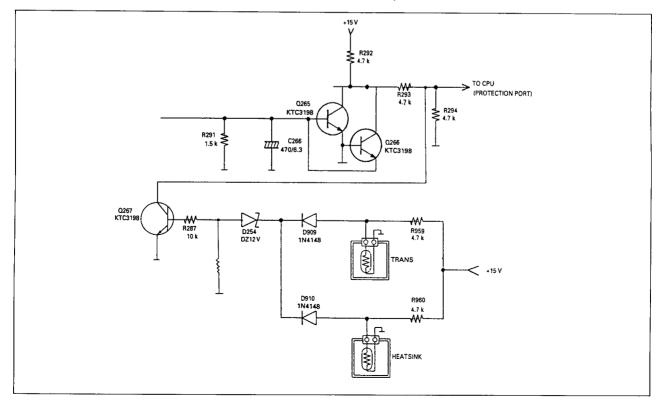
The CPU protects both this unit and the speakers when an abnormally high current flows in Q262 L/R/C and Q263 L/R/C due to excessive input drive, too low of a load impedance, or short of the speaker terminals. If current increase is excessive, the voltage across R273 L/R/C or R274 L/R/C turns on Q264 L/R/C, then Q268 turns on Q269.

It makes the protection port of the CPU to low state, Then the power is turned off.



Thermal Protection Circuits

This unit has a overload thermal protection circuits to guard against abnormal operation. When the temperature of TRANS POSISTOR installed with the main transformer or H/SINK POSISTOR rises abnormally, the resistance of the posistor becomes larger and Q221 is turned on. It makes the protection port of the CPU to low state. Then the power is turned off.



DISASSEMBLY PROCEDURES

REFER TO PAGES 23 AND 37.

□ COVER TOP REMVOAL
 Remove 8 screws (A) and then remove the Cover Top (61).

2 COVER BOTTOM REMOVAL Remove 9 screws (B) and then remove the Cover Bottom (35).

3 FRONT PANEL ASSEMBLY REMOVEL

- 1. Remove the Cover Top (61), referring to the previous step Π .
- 2. Remove the Card cable from wafer (CP502) on the Volume P.C.Board (PCB6).
- 3. Remove the Card cable from wafer (CP802) on the Dolby P.C.Board (PCB8).
- 4. Remove the Card cable from wafer (CP803) on the Tuner P.C.Board (PCB2).
- 5. Disconnet (CP401 and CP581) from the Dolby P.C.Board (PCB8).
- Disconnect (CP291) from the Tuner P.C.Board (PCB2).
- 7. Disconnect (CP402) from the Main P.C.Board (PCB1).
- 8. Disconnect (CP801) from the Power Supply P.C.Board (PCB3).
- Remove 4 screws (C), 4 screws (A) and then remove the Front Panel Assembly (AA).

4 HEADPHONE P.C.BOARD (PCB9) REMOVAL

- 1. Remove the Front Panel Assembly (AA), referring to the Previous step [3].
- 2. Remove 2 screws (E) and then remove the Headphone P.C.Board (PCB9).

5 VOLUME P.C.BOARD (PCB6) REMOVAL

- 1. Remove the Front Panel Assembly (AA), referring to the Previous step 3.
- 2. Pull out the Volume Knob (5) with LED P.C.Board (PCB10).
- 3. Remove the Hex Nut from the volumemotor to remvoe the Volume P.C.Board (PCB6).
- 4. Remove 2 screws (F) and then remove the Volume P.C.Board (PCB6).

6 TONE P.C.BOARD (PCB5) REMOVAL

- 1. Remove the Front Panel Assenbly (AA), referring to the Previous step 3.
- 2. Pull the Bass, Treble, Balance Knobs (7).
- 3. Remove the Hex Nuts from the variable resistors (19, 20).
- 4. Remove 4 screws (G) and then Tone P.C.Board (PCB5).

7 FRONT P.C.BOARD (PCB7) REMOVAL.

- 1. Remove the Front Panel Assembly (AA), referring to the Previous step 3.
- 2. Remove 11 screws (H) and then remove the Front P.C.Board (PCB7).

8 SUB-WOOFER P.C.BOARD (PCB11) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step [].
- 2. Disconnect (CP903) on the Tuner P.C.Board (PCB2).
- 3. Remove 2 screws (K) and them remove the Sub-Woofer P.C.Board (PCB11).

9 TUNER P.C.BOARD (PCB2) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step ∏.
- 2. Remove the Card cable from wafer (CP803) on the Tuner P.C.Board (PCB2).
- Disconnect (CP102, CP103, CP104, CP105, CP291, CP501, CP704, CP901, CP902 and CP903) on the Tuner P.C.Board (PCB2).
- 4. Remove 2 screws (I), 6 screws (J) and then remove the Tuner P.C.Board (PCB2).

10 DOLBY P.C.BOARD (PCB8) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step 1.
- 2. Remove the Front Panel Assembly (AA), referring to the previous step 3.
- 3. Remove the Card cable (CN501) on the Dolby P.C.Board (PCB8).
- 4. Disconnect (CP601) from the Dolby P.C.Board (PCB 8).
- 5. Unjoin 2 Fasteners (37) for remove the Dolby P.C.Board (PCB8).

III SURROUND P.C.BOARD (PCB4) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step 1.
- 2. Do Steps 2, 3 and 10.
- 3. Disconnect (CP602) from the Power Supply P.C.Board (PCB3).
- 4. Remove 6 Screws (L) and then remove the Chassis Front (36).
- 5. Remove 2 screws (M) and then remove the Surround P.C.Board (PCB4).

12 CHASSIS BACK REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step \square .
- 2. Do Steps 2, 3, 10, 11.

- 3. Unsolder 2 leads of the AC Cord (59) from neutral and live on the Power Supply P.C.Board (PCB3).
- 4. Remove 20 screws (N) and then remove the Chassis Back (57).

[3] MAIN P.C.BOARD (PCB1) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step Π .
- 2. Do Steps 2, 3 and 12.
- 3. Unsolder all leads of Q262L/R/C, Q263L/R/C, Q270L/R/C and IC241 from copper track on the Main P.C.Board (PCB1).
- 4. Disconnect (CP241) from the Power Transformer (62).
- 5. Remove 2 screws (O) and then remove the Main P.C.Board (PCB1).

[4] POWER SUPPLY P.C.BOARD (PCB3) REMOVAL

- 1. Remove the Cover Top (61), referring to the previous step [].
- 2. Disconnect (CP801, CP703, CP602, CP101, CP701 and CP702) from Power Supply P.C.Board (PCB3).
- 3. Disconnect (CP704) from the Tuner P.C.Board (PCB2).
- 4. Unsolder 2 leads of the AC Cord (59) from neutral and live on the Power Supply P.C.Board (PCB3).
- 5. Remove 4 screws (P) and then remove the Power Supply (PCB3).

TROUBLESHOOTING

Symptom	Cause and Remedy
Amplifer inoperative (FL indicator does not light)	 A) Faulty AC power cord. Replace. B) Defect the power switch. Replace. C) Broken wire in the power transformer. Replace the power transformer. D) Blown power Replace the fuse.
Fuse blows when power is turned on.	 A) Defective power transformer. Replace. B) Short the primary or secondary of the transformer circintry. Repair the trace. C) Damaged rectifier (D241 to D244) or damaged trans (Ω262 and Ω263). Replace the defective component(s). D) Short circuit in the amplifier circuit. Repair the short.
Power indicator lights but no sound from both channels	 A) Speaker switch 1 or 2 defective. Replace the defective switch (es). B) Defect in transistor Q262L/R, Q263L/R on the Main Amp Board. Repair the shorted component(s) in the amplifier circuit.
Speaker A inoperative	A) Speaker switch A defective. Replace
Speaker B inoperative	A) Speaker switch B defective. Replace.
Speaker works normally but headphones inoperative	A) Headphone plug does not mate with jack. Replace the jack. B) Defective resistors R295L/R Replace.

Symptom	Cause and Remedy
PHONO input inoperative	A) Poor contact in phono input jack. Repair or replace the jack. B) Defective phono switch or IC106. Replace.
LOUDNESS has no effect	A) Defective loudness switch. Replace. B) Defective resistor R301L/R, C301L/R and C302L/R Replace the defective component(s).
Bass control has no effect	A) Variable resistor BASS defective. Replace. B) Defective R416L/R, R417L/R, R418L/R, C414L/R, C415L/R Replace the defective component(s).
Treble control has no effect	A) Variable resistor TREBLE defective. B) Defective C417L/R, C418L/R, R419L/R, R420L/R Replace the defective components(s).
Noise Volume control	A) Defective IC301. Replace. B) Defective capacitor C304 or C305 Replace the defective capacitor(s).
Remote Control Unit inoperative	A) Weak Battery. Replace. B) Defective. Replace. C) Defective IC801 or Sensor 801 (CPU Board) or IC01. Replace.

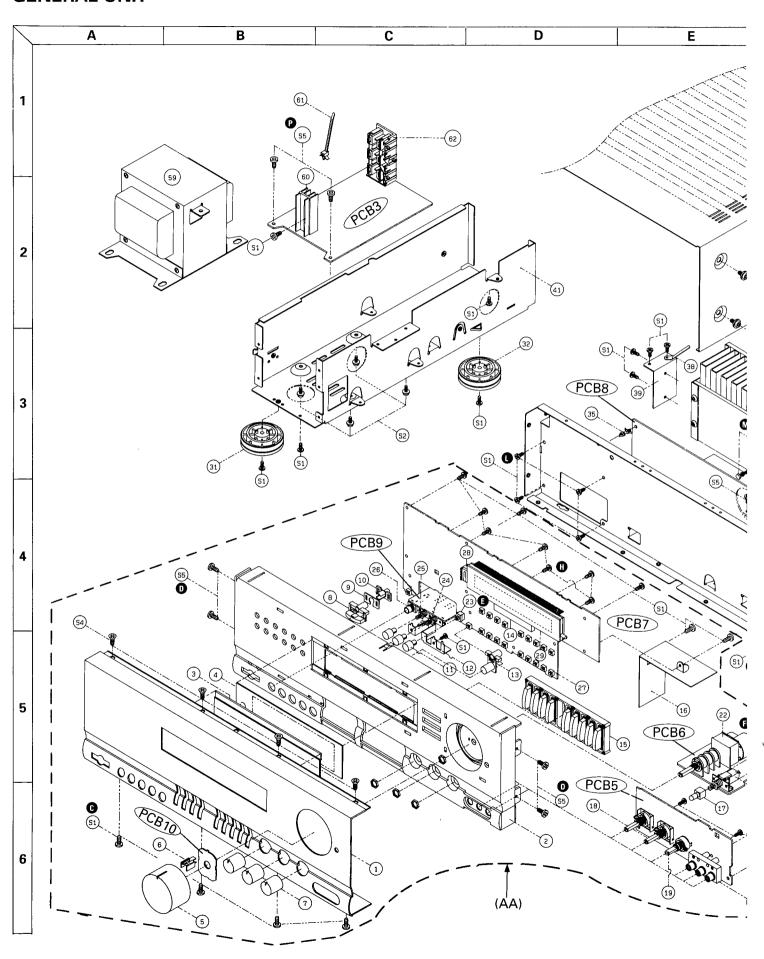
GENERAL UNIT PARTS LIST

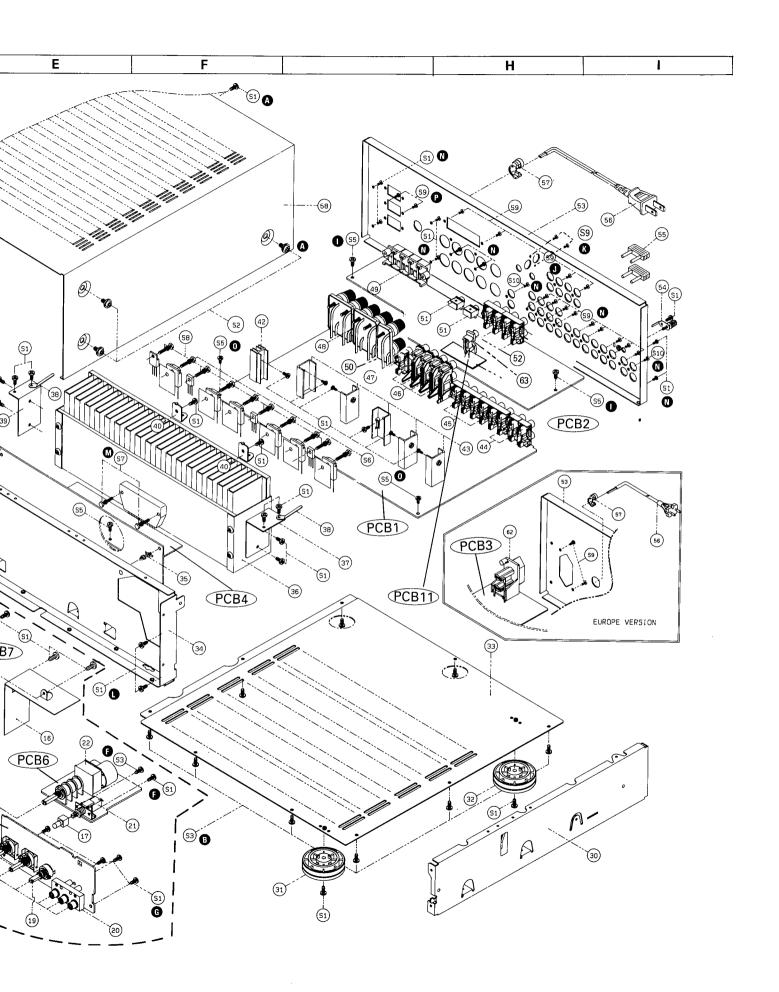
Ref. No.	Description	Mfr. Part No.	Q'ty	Version
	CABINET AND CHASSIS			
1	Panel, Front	048602019322	1	
2 3	Body, Front Window, FL	8521008910 048553020111	1	
4	Filter, FL	048535042611	i	
5	Knob, Volume	048643006711	1	
6	Indicator, Volume	8555049210	1	
7 8	Knob, Rotary	048545126311 048543061011	3	
9	Button, Power Light Shield	8535042910	1	
10	Indicator, Power	8555048710	1	
11	Button, Speaker	048545124111	3	
12 13	Bracket, Shield Button, Source	6165148210 048543060911	1	
14	Sponge	6715020730	i	
15	Button, Seesaw	048543060811	1	
16	Shield Fence	6163114510	1	
17 18	Button, Tuning Volume Rotary (Bass/Treble)	048543059711 3208049510	1	
19	Volume Rotary (Balance)	3208052010	1	
20	Jack, RCA, 3P	4438109710	1	
21(SW301)	Switch, Push	4628059610	1	
22(VR301) 23(SW801)	Volume, Motor Switch, Push	3228019410 4628054410	1	
24(SW291)	Switch, Push	4628043810	1	
25(SW292)	Switch, Push	4628049210	1	
26	Jack, Phone	4438005010	1	
27	Switch, Tact	4658003710 2408005001	38 1	
29(FIP801)	Remote Sensor, TFMT5380 (38 kHZ) FIP, 12 LM 8, FL Display	2328130301	1	
30	Frame Right	6122632210	i	
31	Foot, ABS, Gold, Hot stamping	046033102511	2	
32 33	Foot, ABS, Black	6033102510 6122418610	2	
34	Cover Bottom Chassis, Front	6122214610	1	
35	Fastener	6528300110	2	
36	Heatsink Power	7502008310	1	
37 38	Braket, Heat Sink	6505135910 6525002210	1 2	
39	Clamp, Wire Braket, Heat Sink	6505135810	1	
40	Braket, PCB	6505130010	2	
41	Frame left	6122632110	1	
42 43	Heatsink, Regulator TR. Heatsink, Regulator TR.	7505206220 7505202410	1 5	
44	Jack, RCA, 2P	4438108510	1	
45	Jack, RCA, 6P	4438108710	2	
46	Jack, RCA, 3P	4438108810	4	
47 48	Jack, RCA, 2P, Yellow Terminal Speaker, 8P	4438114210 4408105810	1 1	
49	Terminal Speaker, 4P	4408105410	i	
50	Terminal Speaker, 2P	4408108710	1	
51 52	Jack, Multiroom Jack, RCA, 4P	4438006510	2	
53	Chassis, Back	4438108610 046102041352	1	EUROPE
(53)	Chassis, Back	046102041322	1	USA/CANAD
54	Ground Terminal	4408103720	1	
55 56 <u>/</u> ↑	Plug, Mono Cord, AC Power	4328208510 4308002310	2 1	
57	Stopper, AC Cord	6518000111	i	EUROPE
(57)	Stopper, AC Cord	6518000710	1	USA/CANAD
58 50 1	Cover Top, SECC, Black	046122022611	1	EUROPE
	∆Power Transformer, 230 V, 50 Hz ∆Power Transformer, 120 V, 60 Hz	2828001117 2828009967	1	USA/CANAD
60	Heatsink (H:30), Regulator TR.	7505206210	1	
61	Tie locking	6528002810	1	
	∆Outlet, 1P ∆Outlet, 3P	4448103610 4448102910		EUROPE USA/CANAD
63	Jack RCA, 2P	4438111510		USAVCANAD
C4	HARDWARE KIT	04000005		
S1 S2	Screw #2 BTC 3 X 8 B Screw WSAM 4 X 8 B	8109230083 8159440083	37 10	
S3	Screw #2 BTC 3 X 6 B	8109230063	5	
S4	Screw #2 FTC 3 X 8 B	8129230083	9	
S5	Screw #2 WPTC 3 X 8 Y	8159230081	9	
S6 S7	HEX MSPW 3 X 12 Y HEX MSPW 3 X 16 Y	8099130121 8099130161	6 2	
S8	Screw, Heatsink	8195000310	4	
S9	Screw #1 PTC 3 X 10 B	8119130103	21	
S10	Screw Ground	8155000710	2	
	MICCELLANICOLIC			
	MISCELLANEOUS Card Cable, 12P 450mm	4118612455	1	
	Card Cable, 12P 450mm	4118615189	1	
	Card Cable, 18P, 140mm	4118618149	1	
	Card Cable, 19P, 450mm	4118619459	1	
	Ass'y Posistor Posistor, PTH9M04BE222TS2F33	052438012202 2438012200	1	
	1 55/3(0), F 11/3/9/04DEZZZ1 3ZF33	2430012200	2	

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol $\ensuremath{^{\perp}}$ in the parts list are of special significance to safety. When replacing a component identified with $\ensuremath{^{\perp}}$, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

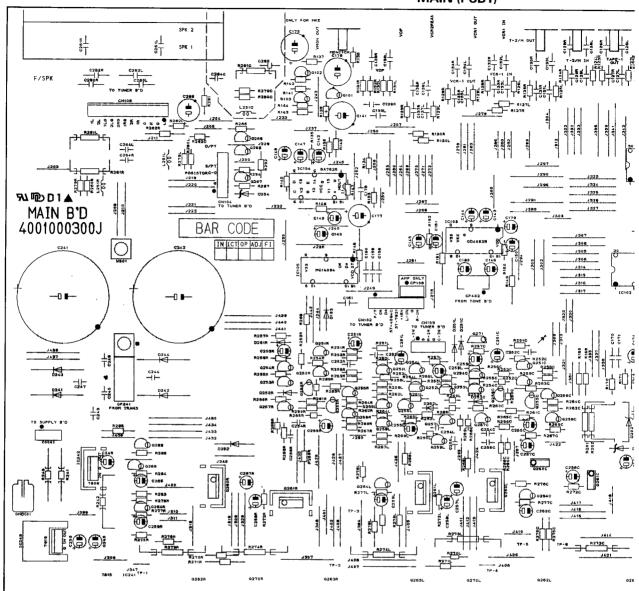
GENERAL UNIT



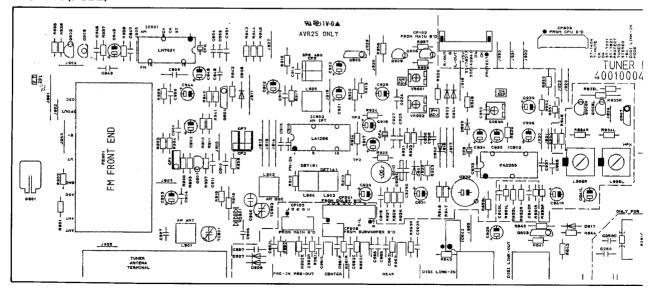


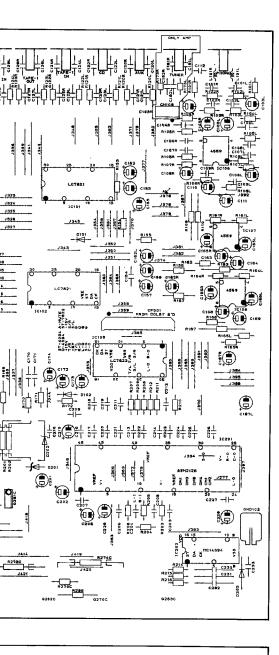
PRINTED CIRCUIT BOARDS

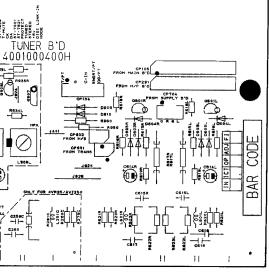
MAIN (PCB1)



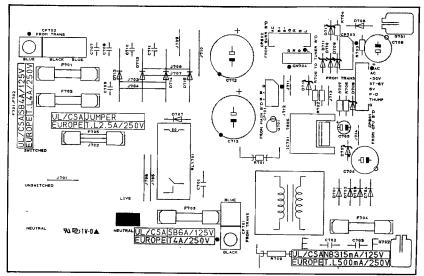
TUNER (PCB2)



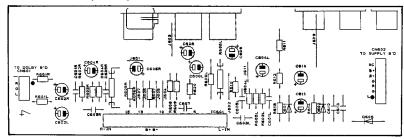




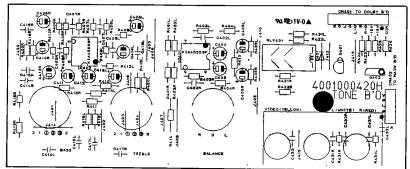
POWER SUPPLY (PCB3)



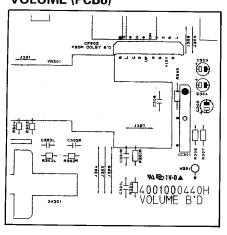
SURROUND (PCB4)



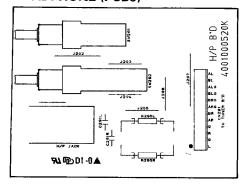
TONE (PCB5)



VOLUME (PCB6)

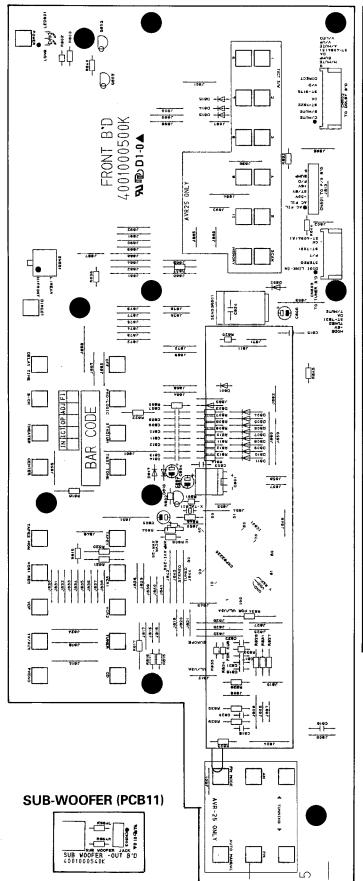


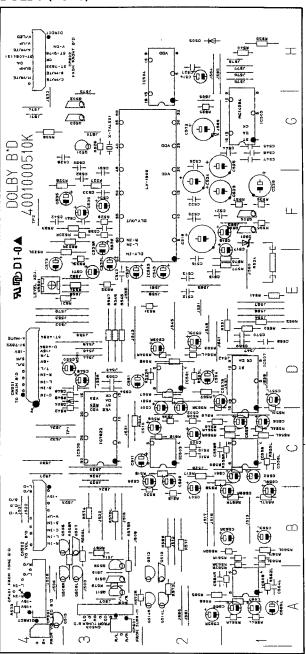
HEADPHONE (PCB9)



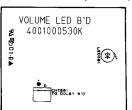
FRONT (PCB7)

DOLBY (PCB8)





VOLUME LED (PCB10)



ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTICE: Products marked with \triangle have special characteristics important to safety.

If you replace any of these components, read carefully the product safety notice in this manual. Don't degrade the safety of the product through improper servicing.

Resistor/Capacitor tolerance – D: $(\pm 0.5\%)$, J: $(\pm 5\%)$, K: $(\pm 10\%)$, M: $(\pm 20\%)$, Z: +80, -20%)

Ref. No.	Description	OADD ***	[1]	Mfr. Part No. Q't			Description	Mfr. Part No.		Versio
CB1	ASSEMBLY P.C.B CAPACITORS	DAKD MĀ	IN .		**	C256L/R	Ceramic Tubular 100	pF 50 V J 3519101935		
101L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2	EUROPE	C257C	Electrolytic SA 10	uF 50 V M 3479210071	1	
102L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		C257L/R	Electrolytic SA 10 Electrolytic SA 4.7	uF 50 V M 3479210071 uF 50 V M 3479247971	2	
103L/R	Electrolytic SA	4.7	uF 50 V M	3479247971 2		C258C C258L/R	Electrolytic SA 4.7 Electrolytic SA 4.7	uF 50 V M 3479247971 uF 50 V M 3479247971	2	
104L/R	Ceramic Tubular	2200	pF 50 V J	3519222935 2		C259C	Electrolytic SA 4.7	uF 35 V M 3479210064		
105L/R	Electrolytic SA	33	uF 25 V M	3479233041 2		C259L/R	Electrolytic SA 10	uF 35 V M 3479210064		
106L/R	Mylar	0.002	uF 100 V J	3679182120 2		C260	Ceramic Tubular 2200	pF 16 V J 3519222915		
107L/R	Mylar	0.006	uF 100 V J	3679562120 2		C260L/R	Ceramic Tubular 2200	pF 50 V J 3519222935		EUROPE
C108L/R	Electrolytic SA	1	uF 50 V M	3479210971 2		C261L/R	Ceramic Tubular 2200	pF 50 V J 3519222935		EUROPE
109L/R	Mylar	0.002	uF 100 V J	3679182120 2		C262L/R	Ceramic Tubular 2200	pF 50 V J 3519222935		EUROPE
0110/C111	Electrolytic SG	47	uF 25 V M	3479347041 2		C264C	Mylar 0.047	uF 100 V J 3679473120		LUNOIL
112	Ceramic Disc	0.01	uF 50 V Z	3579103530 1		C264L/R	Mylar 0.047	uF 100 V J 3679473120		
120L/R	Ceramic Tubular	100	pF 50 V J		EUROPE	C265	Electrolytic SA 1	uF 100 V M 3479210997		
121L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		C266	Electrolytic SG 470	uF 10 V M 3479347121		
122L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		0200	Electrory at GG 470	ui 10 V W 3473347121	'	
123L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2			CONNECTORS			
124L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CN101	Lead Ass'y, 3P, 200 mm	436103203331	1	
125L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CN102	Lead Ass'y, 9P 100 mm	436209103332	1	
126L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2	EUROPE	CN103	Lead Ass'y, 5P, 180 mm	436205183332		
127L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2	EUROPE	CN104	Lead Ass'y, 7P 140 mm	436207143332		
128L/R	Ceramic Tubular	100	pF 50 V J		EUROPE	CN105	Lead Ass'y, 12P, 140 mm	435112143401	1	
129L/R	Ceramic Tubular	100	pF 50 V J		EUROPE	CP108	Wafer 3P	4428516210	1	
130L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CN108	Lead Ass'y, 3P, 200 mm	436403203232		
131L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CP402	Wafer 5P	4428516410		
132L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CP501	FPC Plug 19P	4428526310		
133L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		CP241	Plug LV AC, 3P	4428525790		
134L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		O. 271	Plug LV AC, 1P	4428525860		
135L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2				4420020000	'	
136L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2			DIODES			
137L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		D101-D103	1N4148M, Switching	2058322101	3	
138L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		D201/D202	Zener, DZ 6.8BSC	2258599121	2	
139L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		D201/D202	1N4148M, Switching	2058322101	4	
140	Electrolytic SA	33	uF 25 V M	3479233041 1		∆ D241-D244	PX6A03, Rectifier	2058322101	4	
141	Electrolytic SG	470	uF 10 V M	3479347121 1		D251C			4	
142	Electrolytic SA	33	uF 25 V M	3479233041 1		D251L/R	1N4148M, Switching	2058322101	1	
143-C146	Electrolytic SA	10	uF 50 V M	3479210071 4		D251DR D252C	1N4148M, Switching	2058322101	2	
147/C148	Electrolytic SA	33	uF 25 V M	3479233041 2		D252L/R	1N4148M, Switching	2058322101		
149	Electrolytic SA	2.2	uF 50 V M	3479222971 1		D252L/R D254	1N4148M, Switching	2058322101	2	
	Electrolytic SG	47	uF 25 V M	3479347041 4		D234	Zener, DZ 12.0BSC	2258599116	1	
154	Ceramic Disc	0.01	uF 50 V Z	3579103530 1			INTEGRATED CIRCUITS			
155	Electrolytic SA	1	uF 50 V M	3479210971 1		10101/10102	INTEGRATED CIRCUITS	2169017122	2	
156/C157	Electrolytic SG	47	uF 25 V M	3479347041 2		IC101/IC102 IC103		2168017132	- 2	
158	Ceramic Tubular	1000	pF 50 V J	3519102935 1		IC103	GD4052B	2138001114	1	
	Ceramic Tubular	100	pF 50 V J	3519101935 2			BA7625, Video Switching	2168027106		
161	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1		IC105	MC14094BCP	2138009115	1	
162L/R	Electrolytic SA	4.7	uF 50 V M	3479247971 2			KIA4559P/KIA75559P, OP Amp		3	
163/C164		47	uF 25 V M	3479347041 2		IC109	LC7822	2168017139	1	
165L/R	Electrolytic SA	4.7	uF 50 V M	3479247971 2		IC201	SSM-2126A	2168000122	1	
166L/R	Electrolytic SA	10	uF 50 V M	3479210071 2		IC202	MC14094BCP	2138009115	1	
167L/R	Electrolytic SA	10	uF 50 V M	3479210071 2		⚠ IC241	GL7815, Regulator	2168601105	1	
168/C169	Electrolytic SG	47	uF 25 V M	3479347041 2		⚠ IC242	GL7806, Regulator	2168601110		
170/C171	Ceramic Tubular	100	pF 50 V J	3519101935 2		⚠ IC243	GL7915, Regulator	2168601111	1	
172	Electrolytic SG	47	uF 25 V M	3479347041 1			0011.6			
173	Electrolytic SA	1	uF 50 V M	3479210971 1		1404140	COILS	0040004470	_	
174	Electrolytic SG	47	uF 25 V M	3479347041 1		L101L/R	Inductor, 50 uH	2648601470		EUROPE
	Electrolytic SG	470	uF 10 V M	3479347121 3		L251C	Inductor, 0.5 uH	2648001010	1	
178	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1		L251L/R	Inductor, 0.5 uH	2648001010	2	
	Electrolytic SA	10	uF 50 V Z	3479210071 2			TRANSISTOR			
181L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2	EUROPE	0404 0400	TRANSISTORS	2000000:	_	
182L/R	Ceramic Tubular	100	pF 50 V J	3519101935 2		Q101-Q103	BKTA1266Y/KTA1015Y, PNP		3	
201/C202	Electrolytic SG	220	uF 10 V M	3479322121 2		Q251C	KTA2400-GG, PNP	2208006100	1	
	Mylar	0.01	uF 100 V J	3679103120 3		Q251L/R Q252C	KTA2400-GG, PNP	2208006100	2	
206/C207		0.22	uF 63 V K	3679224297 2		Q252L/R	KTA2400-GG, PNP KTA2400-GG, PNP	2208006100	1 2	
208	Electrolytic SA	4.7	uF 50 V M	3479247971 1		Q252L/R Q253C		2208006100		
209-C212	Mylar	0.1	uF 63 V K	3679104297 4		Q253C Q253L/R	KTA2400-GG, PNP KTA2400-GG, PNP	2208006100		
213/C214	Poly	680	pF 50 V J	3619681110 2				2208006100	2	
215/0214	Electrolytic SA	4.7	uF 50 V M	3479247971 1		Q254C	BKTA1266Y/KTA1015Y, PNP BKTA1266Y/KTA1015Y, PNP	2208206105	1	
216/C217	Mylar	0.22	uF 63 V K	3679224297 2		Q254L/R		2208206105	2	
218-C221	Mylar	0.22	uF 63 V K	3679334297 4		Q255C	KTC2240BL/KTC3200, NPN	2208606108	1	
222-C225	Mylar	0.022	uF 100 V J	3679223120 4		Q255L/R	KTC2240BL/KTC3200, NPN	2208606108		
226/C227	Mylar	0.022	uF 63 V K	3679104297 2		Q256C	KTC2240BL/KTC3200, NPN	2208606108	1	
228	Electrolytic SG	100	uF 10 V M	3479310121 1		Q256L/R	KTC2240BL/KTC3200, NPN	2208606108	2	
229	Electrolytic SA	100	uF 50 V M	3479210071 1		Q257C	KTA949/KTA1024Y, PNP	2208206102		
230-C232	Ceramic Tubular	100	pF 50 V J	3519101935 3		Q257L/R	KTA949/KTA1024Y, PNP	2208206102		
233	Ceramic Disc	0.01	uF 50 V Z	3579103530 1		Q258C	KTC2229/KTC3206Y, NPN	2208606118	1	
	Electrolytic HM	10000	uF 80 V M	3419510345 2		Q258L/R	KTC2229/KTC3206Y, NPN	2208606118	2	
241/C242 243-C247	Ceramic Disc	0.01	uF 500 V Z	3509103451 5		Q259C	KTA1268/KTA970, PNP	2008206104	1	
243-C247 248-C250	Electrolytic SA			3479210971 3		Q259L/R	KTA1268/KTA970, PNP	2008206104		
	Electrolytic SA Electrolytic SG	1 47				Q260C	2SC4883A-Y, NPN	2028316100	1	
251C		47	uF 25 V M			Q260L/R	2SC4883A-Y, NPN	2028316100	2	
251L/R	Electrolytic SG	47	uF 25 V M	3479347041 2		Q261C	2SA1859A-Y, PNP	2028016100	1	
252C	Ceramic Disc	68	pF 50 V J	3579680130 1		Q261L/R	2SA1859A-Y, PNP	2028016100	2	
252L/R	Ceramic Disc	68	pF 50 V J	3579680130 2		Q262C	2SC3182N-O, NPN	2028307101	1	
253C	Electrolytic SA	1	uF 50 V M	3479210971 1		Q262L/R	2SC3519A, NPN	2028416122	2	
	Electrolytic SA	1	uF 50 V M	3479210971 2		Q263C	2SA1265N-O, PNP	2028007101	1	
	Ceramic Disc	3	pF 50 V D	3579309030 1		Q263L/R	2SA1386A, PNP	2028116108		
254C										
254C 254L/R	Ceramic Disc	3	pF 50 V D	3579309030 2		Q264C	K1C3198Y/K1C1815Y, NPN	2208606104	1	
254C 254L/R 255C	Ceramic Disc Electrolytic SG	470	pF 50 V D uF 10 V M	3479347121 1		Q264C Q264L/R	KTC3198Y/KTC1815Y, NPN KTC3198Y/KTC1815Y, NPN	2208606104 2208606104	1 2	
253L/R 254C 254L/R 255C 255L/R 256C	Ceramic Disc					Q264L/R	KTC3198Y/KTC1815Y, NPN KTC3198Y/KTC1815Y, NPN KTC3198Y/KTC1815Y, NPN	2208606104 2208606104 2208606104		

Ref. No.	Description		Mfr. Part No.	Q:ty	Version	Ref. No.	Description			Mfr. Part No.	Q'tv	Version
Q269	KTC3198Y/KTC1815Y,	NPN	2208606104	1		R272C	Carbon Film	82	ohm 1/5 W J	3069820970	1	
Q270C Q270L/R	2SC4137, NPN, Bias 2SC4137, NPN, Bias		2008622110 2008622110	1	<u>. İ.</u>	R272L/R R273C	Carbon Film Cement	82 0.27	ohm 1/5 W J ohm 5 W J	3069820970 3059278782	2 1	
Q271	DTC114YS		2208622106	1	1-1	R273L/R	Cement	0.27	ohm 5W J	3059278782	2	
	RESISTORS					R274C R274L/R	Cement Cement	0.27 0.27	ohm 5W J	3059278782 3059278782	1 2	
R101L/R R102L/R	Carbon Film Carbon Film	1 kohm 1/5 W J 91 kohm 1/5 W J	3069102970 3069913970	2	-	R275C	Carbon Film	1.8	kohm 1/5 W J	3069182970	1	
R103L/R	Carbon Film	91 kohm 1/5 W J	3069913970	2		R275L/R R276C	Carbon Film Carbon Film	1.8 1.5	kohm 1/5 W J kohm 1/5 W J	3069182970 3069152970	2 1	
R104L/R R105L/R	Carbon Film Carbon Film	820 ohm 1/5 W J 43 kohm 1/5 W J	3069821970 3069433970	2		R276L/R	Carbon Film	1.5	kohm 1/5 W J	3069152970	2	
R106L/R	Carbon Film	560 kohm 1/5 W J	3069564970	2		R277C R277L/R	Carbon Film Carbon Film	910 910	ohm 1/5 W J ohm 1/5 W J	3069911970 3069911970	1	
R107L/R R108L/R	Carbon Film Carbon Film	560 ohm 1/5 W J 100 kohm 1/5 W J	3069561970 3069104970	2		R278C R278L/R	Carbon Film Carbon Film	6.8 6.8	kohm 1/5 W J kohm 1/5 W J	3069682970 3069682970	1 2	
R109/R110	Carbon Film	220 ohm 1/5 W J	3069221970	2	1	R279C	Carbon Film	22	ohm 1/5 W J	3069220970	1	
R120L/R R121L/R	Carbon Film Carbon Film	470 ohm 1/5 W J 470 ohm 1/5 W J	3069471970 3069471970	2 2		R279L/R R280C	Carbon Film Carbon Film	22 22	ohm 1/5 W J ohm 1/5 W J	3069220970 3069220970	2	
R122L/R	Carbon Film	470 ohm 1/5 W J	3069471970	2	1	R280L/R	Carbon Film	22	ohm 1/5 W J	3069220970	2	
R123L/R R124L/R	Carbon Film Carbon Film	470 ohm 1/5 W J 1 kohm 1/5 W J	3069471970 3069102970	2		R281C R281L/R	Metal Film Metal Film	10 10	ohm 1W J ohm 1W J	3029100470 3029100470	1	
R125L/R	Carbon Film	470 ohm 1/5 W J	3069471970	2	ļ	R282C	Carbon Film	24	kohm 1/5 W J	3069243970	1	
R126L/R R127L/R	Carbon Film Carbon Film	470 ohm 1/5 W J 100 kohm 1/5 W J	3069471970 3069104970	2 2		R282L/R R283	Carbon Film Carbon Film	24 68	kohm 1/5 W J kohm 1/5 W J	3069243970 3069683970	2	
R128L/R	Carbon Film	470 ohm 1/5 W J	3069471970	2		R284	Carbon Film	100	kohm 1/5 W J	3069104970	1	
R129L/R R130L/R	Carbon Film Carbon Film	470 ohm 1/5 W J 100 kohm 1/5 W J	3069471970 3069104970	2		R285 R286	Carbon Film Carbon Film	3.3 220	kohm 1/5 W J ohm 1/5 W J	3069332970 3069221970	1	
R131L/R	Carbon Film	470 ohm 1/5 W J	3069471970	2	F	R287	Carbon Film	10	kohm 1/5 W J	3069103970	1	
R132L/R R133-R138	Carbon Film Carbon Film	100 kohm 1/5 W J 75 ohm 1/5 W J	3069104970 3069750970	2 5		R288 R288C	Carbon Film Carbon Film	150 33	kohm 1/5 W J kohm 1/5 W J	3069154970 3069333970	1	
R139-R144	Carbon Film	100 ohm 1/5 W J	3069101970	6	F	R288L/R	Carbon Film	33	kohm 1/5 W J	3069333970	2	
R145 R146	Carbon Film Carbon Film	75 ohm 1/5 W J 10 ohm 1/5 W J	3069750970 3069100970	1		R289C R289L/R	Carbon Film Carbon Film	560 560	ohm 1/5 W J ohm 1/5 W J	3069561970 3069561970	1 2	
R147/R148	Carbon Film	100 ohm 1/5 W J	3069101970	2	i	R290C	Carbon Film	4.7	kohm 1/5 W J	3069472970	1	
R149-R152 R153/R154	Carbon Film Carbon Film	3.3 kohm 1/5 W J 220 ohm 1/5 W J	3069332970 3069221970	4 2		R290L/R R291	Carbon Film Carbon Film		kohm 1/5 W J kohm 1/5 W J	3069472970 3069152970	2 1	
R155	Carbon Film	100 kohm 1/5 W J	3069104970	1	ı	R292	Carbon Film	10	kohm 1/5 W J	3069103970	1	
R156/R157 R161L/R	Carbon Film Carbon Film	220 ohm 1/5 W J 100 kohm 1/5 W J	3069221970 3069104970	2		R294 R296	Carbon Film Carbon Film		kohm 1/5 W J kohm 1/5 W J	3069472970 3069473970	3 1	
R162/R163	Carbon Film	220 ohm 1/5 W J	3069221970	2								
R164L/R R165L/R	Carbon Film Carbon Film	100 kohm 1/5 W J 100 kohm 1/5 W J	3069104970 3069104970	2	4	43	MISCELLANEOUS Heatsink, Regulator Ti	R.		7505202410	5	
R166/R167	Carbon Film	220 ohm 1/5 W J	3069221970	2		42	Heatsink, Regulator Ti			7505206220	1	
R168/R169 R170/R171	Carbon Film Carbon Film	100 ohm 1/5 W J 220 ohm 1/5 W J	3069101970 3069221970	2		44 45	Jack, RCA, 2P Jack, RCA, 6P			4438108510 4438108710	1	
R172	Carbon Film	100 kohm 1/5 W J 470 ohm 1/5 W J	3069104970	1 2		46	Jack, RCA, 3P			4438108810	4	
R173L/R R201/R202	Carbon Film Metal Film	150 ohm 1W J	3069471970 3029151470	2		47 48	Jack, RCA, 2P, Yellow Terminal Speaker, 8P	V		4438114210 4408105810	1	
R203-R205	Carbon Film	22 kohm 1/5 W J 10 Mohm 1/5 W J	3069223970 3069106970	3 1	Ę	50	Terminal Speaker, 2P			4408108710	1	
R206 R207	Carbon Film Carbon Film	47 kohm 1/5 W J	3069473970	i			Plate, Ground			4235007310	2	
R208 R209/R210	Carbon Film Carbon Film	15 kohm 1/5 W J 7.5 kohm 1/5 W J	3069153970 3069752970	1 2	:ir	PCB2	ASSEMBLY P.C.BOA	DE TO	MEB	000000000000000000000000000000000000000	90000000	
R211	Carbon Film	47 kohm 1/5 W J	3069473970	1	95	WD 2	CAPACITORS	KU IU	MCK	8855533553555	869191	
R212 R214-R216	Carbon Film Carbon Film	15 kohm 1/5 W J 1 kohm 1/5 W J	3069153970 3069102970	1 3		C614L/R C615L/R	Electrolytic SA	4.7	uF 50 V M uF 100 V J	3479247971	2	
	Metal Film	4.7 ohm 2W J	3029479570	1		C616-C617	Mylar Ceramic Tubular	0.047 3300	pF 50 V J	3679473120 3519332935	2	
↑ R242/R243 R251C	Metal Film Carbon Film	10 ohm 2WJ 33 kohm 1/5WJ	3029100570 3069333970	2 1		C618 C825	Ceramic Tubular Electrolytic SG	2200 47	pF 50 V J uF 25 V M	3519222935 3479347041	1	
R251L/R	Carbon Film	33 kohm 1/5 W J	3069333970	2	C	C960L/R	Ceramic Tubular	100	pF 50 V J	3519101935	2	
R252C R252L/R	Carbon Film Carbon Film	330 ohm 1/5 W J 330 ohm 1/5 W J	3069331970 3069331970	1 2		0961L/R 0962C	Ceramic Tubular Ceramic Tubular	100 100	pF 50 V J pF 50 V J	3519101935 3519101935	2	
R253C	Carbon Film	390 ohm 1/5 W J	3069391970	1	C	C963L/R	Ceramic Tubular	100	pF 50 V J	3519101935	2	
R253L/R R254C	Carbon Film Carbon Film	390 ohm 1/5 W J 390 ohm 1/5 W J	3069391970 3069391970	2 1	C	C965-C967	Ceramic Tubular	0.1	uF 50 V Z	3519104935	3	
R254L/R	Carbon Film	390 ohm 1/5 W J	3069391970	2			CONNECTORS					
R255C R255L/R	Carbon Film Carbon Film	270 ohm 1/5 W J 270 ohm 1/5 W J	3069271970 3069271970	1 2		CP102 CP103	Wafer, 9P Wafer, 5P			4428525590 4428516410	1	
R256C	Carbon Film	10 kohm 1/5 W J	3069103970	1	C	CP104	Wafer, 7P			4428516610	1	
R256L/R R257C	Carbon Film Carbon Film	10 kohm 1/5 W J 33 kohm 1/5 W J	3069103970 3069333970	2 1		CP105 CP271	Wafer, 12P Wafer, 12P			4428510720 4428510720	1	
R257L/R	Carbon Film	33 kohm 1/5 W J	3069333970	2	C	CP503	Wafer, 9P			4428516810	1	
R258C R258L/R	Carbon Film Carbon Film	1.5 kohm 1/5 W J 1.5 kohm 1/5 W J	3069152970 3069152970	1 2		CP704 CP803	Wafer, 4P Wafer, FPC 12P			4428516310 4428526246	1	
R259C	Carbon Film	1.5 kohm 1/5 W J	3069152970	1 2		CP903	Wafer, 3P				1	
R259L/R R260C	Carbon Film Carbon Film	1.5 kohm 1/5 W J 560 ohm 1/5 W J	3069152970 3069561970	1			DIODES					
R260L/R	Carbon Film	560 ohm 1/5 W J 560 ohm 1/5 W J	3069561970 3069561970	2		0603L/R 0604L/R	1N4148M, Switching			2058322101	2	
R261C R261L/R	Carbon Film Carbon Film	560 ohm 1/5 W J 560 ohm 1/5 W J	3069561970	2		0605L/R	1N4148M, Switching 1N4148M, Switching			2058322101 2058322101	2	
R262C R262L/R	Carbon Film Carbon Film	560 ohm 1/5 W J 560 ohm 1/5 W J	3069561970 3069561970	1 2		0817 0907-D910	1N4148M, Switching			2058322101	1	
R263C	Carbon Film	560 ohm 1/5 W J	3069561970	1		J907-D910	1N4148M, Switching			2058322101	4	
R263L/R R264C	Carbon Film Carbon Film	560 ohm 1/5 W J 560 ohm 1/5 W J	3069561970 3069561970	2 1	1	.601L/R	COIL Inductor, 0.5 uH			2649004040	2	
R264L/R	Carbon Film	560 ohm 1/5 W J	3069561970	2	L	אטוטט				2648001010	2	
R265C R265L/R	Carbon Film Carbon Film	1.3 kohm 1/5 W J 1.3 kohm 1/5 W J	3069132970 3069132970	1 2	_	Q601L/R	TRANSISTORS KTC3198Y/KTC1815Y	NDN		2208606104	2	
R266C	Carbon Film	22 kohm 1/5 W J	3069223970	1		2803	DTA114YS, PNP	, INFIN		2208606104	4	
R266L/R R267C	Carbon Film Carbon Film	22 kohm 1/5 W J 22 kohm 1/5 W J	3069223970 3069223970	2			RESISTORS					
R267L/R	Carbon Film	22 kohm 1/5 W J	3069223970	2		R615L/R	Carbon Film	390	ohm 1/5 W J	3069391970	2	
R268C R268L/R	Carbon Film Carbon Film	100 ohm 1/5 W J 100 ohm 1/5 W J	3069101970 3069101970	1 2		R616L/R R617L/R	Carbon Film Cement	15 0.47	kohm 1/5 W J ohm 2 W J	3069153970 3059478572	2	
R269C	Carbon Film	100 ohm 1/5 W J	3069101970	1	F	R618L/R	Carbon Film	22	kohm 1/5 W J	3069223970	2	
R269L/R R270C	Carbon Film Carbon Film	100 ohm 1/5 W J 1.21 kohm 1/5 W F	3069101970 3027121125	2 1		R619L/R R620L/R	Carbon Film Carbon Film		kohm 1/5 W J ohm 1/5 W J	3069222970 3069220970	2	
R270L/R	Carbon Film	1.21 kohm 1/5 W F	3027121125	2	R	R621L/R	Carbon Film	22	ohm 1/5 W J	3069220970	2	
R271C R271L/R	Carbon Film Carbon Film	470 ohm 1/5 W J 442 ohm 1/5 W J	3069471970 3027442025	1 2		R622L/R R623L/R	Carbon Film Carbon Film	22 22	ohm 1/5 W J ohm 1/5 W J	3069220970 3069220970	2 2	
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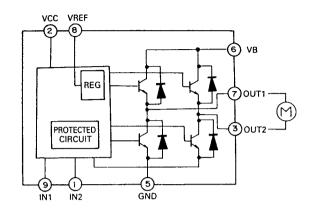
Company Comp	Ref. No.	Description	Mfr. Part No. O'ty Version	Ref. No. Description	Mfr. Part No. Q'ty Version
BRIDGE Cabox Film	R841 R842 R843 R844	Carbon Film 47 kohm 1/5 W J Carbon Film 47 ohm 1/5 W J Carbon Film 270 ohm 1/5 W J Carbon Film 3.9 kohm 1/5 W J	3069473970 1 3069470970 1 3069271970 1 3069392970 1	CN601 Lead Ass'y, 3P, 180 mm CN602 Lead Ass'y, 7P, 350 mm	
March Film 1	R960L/R R961L/R	Carbon Film 1 kohm 1/5 W J Carbon Film 1 kohm 1/5 W J	3069102970 2 3069102970 2	D601/602 1N4002, Rectifier	
Cappa		Carbon Film 1 kohm 1/5 W J			2178317129 1
## SERBINEY PLEASERS PROVED SERVICE SUPPLY	49 51	Plate, Ground Terminal Speaker, 4P Jack, Multiroom	4408105410 1 4438006510 2	R601L/R Carbon Film 1 kohm 1/5 W R602L/R Carbon Film 47 kohm 1/5 W R603L/R Carbon Film 2 kohm 1/5 W R604L/R Carbon Film 43 kohm 1/5 W	J 3069473970 2 J 3069202970 2 J 3069433970 2
C702-07-07-07-07-07-07-07-07-07-07-07-07-07-		CAPACITORS	3540472410 1	R607 Carbon Film 10 ohm 1/5 W	J 3069100970 1
CH101	C702/C703 C704 C705 C706 C707-C711	Ceramic Tubular 0,047 uF 50 V Z	3519473935 2 3479322131 1 3479210971 1 3479310171 1 3679473120 5 3409333262 1	R609 Carbon Film 1 kohm 1/5 W R610 Carbon Film 10 kohm 1/5 W R611 Carbon Film 390 kohm 1/5 W R612 Carbon Film 68 kohm 1/5 W R613 Carbon Film 220 kohm 1/5 W R614 Carbon Film 4.7 kohm 1/5 W	J 3069102970 1 J 3069103970 1 J 3069394970 1 J 3069683970 1 J 3069224970 1 J 3069072970 1
CP702	CP101	Lead Ass'y, 4P, 160 mm Plug LV AC, 3P	4428525790 1		4235007310 1
CP-01	CP701 CP702	Plug LV AC, 2P Plug LV AC, 3P	4428525780 1 4428525790 1	CAPACITORS	
D705/0706 Zener, UZ, 518SB 2285899103 2 C490LR Ceramic Fubular 39 pf 50 y 3 591990635 2 D707/07078 M14002, Recriber 2285899103 1 C411C47 Electolytic SG 47 uF 25 y M 3478247041 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2 M 2	CP801	Wafer 8P DIODES	4428516710 1	C403/C404 Electrolytic SG	M 3479347041 2 M 3479210071 2 M 3479210071 2
Transistor Carbon Film 10 ohm 16W J 308910370 1 CAPON	D705/D706 D707/D708 D709 D710/D711	Zener, ÚZ 5.1BSB 1N4002, Rectifier Zener, UZ 7.5BSC Zener, UZ 15.0BSC	2258599103 2 2258100135 2 2258599130 1 2258599109 2	C409L/R Ceramic Tubular 39 pF 50 V C410L/R Electrolytic SA 10 uF 50 V C411/C412 Electrolytic SG 47 uF 25 V C413L/R Electrolytic SA 10 uF 50 V	J 3519390835 2 M 3479210071 2 M 3479347041 2 M 3479210071 2
Carrier Carr		Zener, ÚZ 5.1BSB		C415L/R Mylar 0.082 uF 100 V C417L/R Mylar 0.003 uF 100 V	J 3679823120 2 J 3679332120 2
RESISTORS Metal Film 10 chm 1 W 3 30291004 1	⚠ IC701	GL7806, Regulator	2168601110 1	C431L/R Ceramic Tubular 100 pF 50 V C432L/R Ceramic Tubular 100 pF 50 V	J 3519101935 2 EUROPE J 3519101935 2 EUROPE
R701	Q701	KTC3198Y/KTC1815Y, NPN	2208606104 1	CONNECTORS	
R706	R702	Metal Film 10 ohm 1 W J Carbon Film 2 kohm 1/5 W J	3069202970 1	CN402 Lead Ass'y, 5P, 400 mm	
FOOL AT LA A 250V 5508102931 1 USACANDA A 125V 5508102931 1 USACANDA CANDA	R706 R707	Carbon Film 6.8 kohm 1/5 W J Carbon Film 1 kohm 1/5 W J	3069682970 1 3069102970 1	INTEGRATED CIRCUITS	
F702	F701 <u>/</u>	FUSES \(\text{TL 4A 250V}\)	5508302935 1 EUROPE	TRANSISTORS Q401 BKTA1266Y/KTA1015Y, PNP	2208206105 1
RAPTOLIAN Relay, HR-CR313(TV-3) 5528042002 1 R408L/R Carbon Film 100 kohm 1/5 W J 3069104970 2 2 2 3 3 3 3 3 3 3	F702 // // // // // // // // // // // // //	∑ TL 4A 250V ∑ SB 4A 125V ∑ TL 4A 250V ∑ SB 8A 125V ∑ TL 500mA 250V Å NB 315mA 125V	5508302935 1 EUROPE 5508102921 1 USA/CANADA 5508302935 1 EUROPE 5508103121 1 USA/CANADA 5508301635 1 EUROPE 5508201521 1 USA/CANADA	RESISTORS R401L/R Carbon Film 100 kohm 1/5 W R402L/R Carbon Film 1 kohm 1/5 W R403L/R Carbon Film 5.1 kohm 1/5 W R405L/R Carbon Film 560 ohm 1/5 W R405L/R Carbon Film 100 kohm 1/5 W R405L/R R4	J 3069104970 2 J 3069102970 2 J 3069512970 2 J 3069561970 2 J 3069104970 2
R423	G701 G702 60 61 62	Relay, HR-CR313(TV-3) Plate, Ground Plate, Ground Heatsink (H:30), Regulator TR. Tie locking Outlet, 1P Outlet, 3P Standby Transformer, 230 V 50 Hz Plate Standby Transformer, 120 V 60 Hz Pin, Solder	4235007310 1 4235007310 1 7505206210 1 6528002810 1 4448103610 1 EUROPE 4448102910 1 USA/CANADA 28280800077 1 EUROPE 2828089007 1 USA/CANADA 4228001410 2	R407L/R Carbon Film 100 kohm 1/5 W R408L/R Carbon Film 120 kohm 1/5 W R409L/R Carbon Film 1 Mohm 1/5 W R410/R411 Carbon Film 220 ohm 1/5 W R412L/R Carbon Film 560 ohm 1/5 W R413L/R Carbon Film 220 ohm 1/5 W R416L/R Carbon Film 220 ohm 1/5 W R416L/R Carbon Film 20 kohm 1/5 W R419L/R Carbon Film 3.9 kohm 1/5 W R420L/R Carbon Film 2.2 kohm 1/5 W R420L/R Carbon Film 560 ohm 1/5 W R421L/R Carbon Film 1.2 kohm 1/5 W	J 3069104970 2 J 3069124970 2 J 3069221970 2 J 3069221970 2 J 3069261970 2 J 3069221970 2 J 3069221970 2 J 3069221970 2 J 3069222970 2 J 3069222970 2 J 3069561970 2 J 3069561970 2 J 3069561970 2
C604L/R Electrolytic SA 2.2 UF 50 V M 3479222971 2 RLY401 Relay, G5V-2-H1 5528040001 1 C605L/R Ceramic Tubular 4.7 pF 50 V J 3519047935 2 18 Volume Rotary (Bass/Treble) 3208049510 2 C606L/R Electrolytic SA 47 uF 35 V M 3479247061 2 19 Volume Rotary (Balance) 3208049010 1 C607 Mylar 0.1 uF 63 V K 3679104297 1 20 Jack, RCA, 3P 4438109710 1 C608/C809 Electrolytic SA 10 uF 50 V M 3479210071 2 C610/C611 Electrolytic SA 10 uF 50 V M 3479210071 2	C601L/R C602L/R	CAPACITORS Ceramic Tubular 2200 pF 50 V J Electrolytic SA 2.2 uF 50 V M	3519222935 2 3479222971 2	R423 Carbon Film 12 kohm 1/5 W R424 Carbon Film 100 ohm 1/5 W R425/R426 Carbon Film 3.6 kohm 1/5 W R431L/R Carbon Film 470 ohm 1/5 W	J 3069123970 1 J 3069101970 1 J 3069362970 2
	C604L/R C605L/R C606L/R C607 C608/C809	Electrolytic SA 2.2 uF 50 V M	3479222971 2 3519047935 2 3479247061 2 3679104297 1 3479210071 2	RLY401 Relay, G5V-2-H1 18 Volume Rotary (Bass/Treble) 19 Volume Rotary (Balance)	3208049510 2 3208052010 1

Ref. No.	Description Mi	r. Part No. Q'ty. V	ersion Ref. No.	Description		Mfr. Part No.	Q'ty Version
PCB6	ASSEMBLY P.C. BOARD VOLUME		C511	Electrolytic SA 3.3	uF 50 V M uF 63 V K	3479233971 3679154297	1
C301L/R		519471935 2	C512 C513	Ceramic Tubular 150	pF 50 V J	3519151935 3479322121	1
C302L/R C303		679823120 2 479347041 1	C514 C515	Electrolytic SG 220 Poly 120	pF 50 V J	3619121110	1
C304/C305 C306	Electrolytic SG 100 uF 10 V M 3	479310121 2 579473530 1	C516 C517	Poly 680 Electrolytic SA 4.7	pF 50 V J uF 50 V M	3619681110 3479247971	1
C306		1379473330	C518	Electrolytic SG 47	uF 50 V M	3479347071 3479347121	1
CP502	CONNECTOR FPC Plug, 18P	1428526305 1	C519 C520	Poly 680	pF 50 V J	3619681110	1
	INTEGRATED CIRCUIT		C521 C522	Mylar 0.022 Poly 150	uF 100 V J pF 50 V J	3679223120 3619151110	1
IC301		168007204 1	C523-C525 C526/C527	Electrolytic SG 220 Ceramic Tubular 0.1	uF 16 V M uF 50 V Z	3479322131 3519104935	3 2
	RESISTOS	0000542070 0	C528	Electrolytic SA 1	uF 50 V M uF 63 V K	3479210971	1
R301L/R R302L/R	Carbon Film 6.2 kohm 1/5 W J 3	3069513970 2 3069622970 2	C529 C530	Mylar 0.22 Mylar 0.068	uF 100 V J	3679224297 3679683120	1
R303/R304 R305		3069622970 2 3069330970 1	C531 C532	Mylar 0.004 Mylar 0.005	uF 100 V J uF 100 V J	3679392120 3679472120	1
R306 R307	Carbon Film 15 kohm 1/5 W J 3	8069153970 1 8069472970 1	C533 C534	Mylar 0.033 Electrolytic SA 10	uF 100 V J uF 50 V M	3679333120 3479210071	1
K307		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	C535	Electrolytic SA 1	uF 50 V M uF 50 V M	3479210971 3479210071	1 2
W301		2624101457 2	C536/C537 C538	Ceramic Tubular 470	pF 50 V J	3519471935	1
21(SW301) 22(VR301)		1628059610 1 3228019410 1	C539L/R C540	Electrolytic SA 10 Ceramic Tubular 680	uF 50 V M pF 50 V J	3479210071 3519681935	2
S1 S3	Screw #2 BTC 3 X 8 B	3109230083 1 3109230063 1	C541 C542	Mylar 0.006 Mylar 0.005	uF 100 V J uF 100 V J	3679562120 3679472120	1 1
33	GLIEW #2 BTC 3 A 0 B	710020000	C543	Electrolytic SA 10	uF 50 V M	3479210071	1
PCB7	ASSEMBLY P.C.BOARD FRONT		C544 C545-C547	Ceramic Tubular 0.1 Ceramic Tubular 100	pF 50 V J	3519104935 3519101935	3
C801	CAPACITORS CAP, FMOH473ZTP16, Backup 5.5 V 3	3409347314 1	C548 C549	Ceramic Tubular 0.01 Electrolytic SA 1	uF 50 V Z uF 50 V M	3519103935 3479210971	1 1
C802 C803	Electrolytic SG 47 uF 25 V M	3479347041 1 3519104935 1	C550/C551 C553/C554	Electrolytic SG 47 Ceramic Tubular 100	uF 25 V M pF 50 V J	3479347041 3519101935	2
C804	Electrolytic SA 10 uF 50 V M	3479210071 1	C555/C556	Electrolytic SG 47	uF 25 V M uF 50 V M	3479347041 3479210971	2 2
C805 C806	Electrolytic SA 33 uF 25 V M	3519120935 1 3479233041 1	C557L/R C558L/R	Ceramic Tubular 0.001	uF 50 V Z	3519102935	2
C807-C814 C815/C816		3519101935 8 3519473935 2	C559L/R C561/C562	Electrolytic SA 22 Electrolytic SG 47	uF 25 V M uF 25 V M	3479222041 3479347041	2 2
C817-C821	Ceramic Tubular 100 pF 50 V J	3519101935 5 3519104935 1	C563L/R C564L/R	Electrolytic SA 1 Ceramic Tubular 0.001	uF 50 V M uF 50 V Z	3479210971 3519102935	2
C822 C824		3519104935 1	C565L/R	Electrolytic SA 3.3	uF 50 V M uF 25 V M	3479233971 3479347041	2 2
	CONNECTORS		C566/C567 C568-C570	Ceramic Tubular 100	pF 50 V J	3519101935	3
CN801 CN802		6208353332 1 4428526690 1	C571 C572	Electrolytic SA 10 Electrolytic SG 220	uF 50 V M uF 16 V M	3479210071 3479322131	1 1
CN803		4428526246 1	C573	Electrolytic SA 10	uF 50 V M	3479210071	1
D801-D816	DIODES 1N4148M, Switching	2058322101 6	CN501	CONNECTORS FPC Plug 19P		4428526310	1
LED801		2308222302 1	CN502 CN503	FPC Plug 18P Lead Ass'y, 9P, 450 mm		4428526305 436209453332	1
	INTEGRATED CIRCUIT	0100000100 1	CP401	Wafer 10P		4428516910	1
IC801	CPX82220-107Q, CPU	2138322182 1	CP581 CP601	Wafer 2P Wafer 3P		4428508210 4428516210	i
Q801	TRANSISTORS MPSA06Y, NPN	2208606114 1	CP802	FPC Plug 15P		4428526270	1
Q802	KTC3198Y/KTC1815Y, NPN	2208606104 1 2208222105 1	D501	DIODES Zener, UZ 12.0BSC		2258599116	1
Q803	2.11.7.1.1.2,7.1.1	2200222100	D502-D504	1N4148M, Switching		2058322101	3
R801		3069103970 1		INTEGRATED CIRCUITS			
R802 R803		3069181970 1 3069151970 1	IC501/IC502 IC503	KIA4559P/KIA75559P, OP An LV-1000NA	np	2168206104 2168017142	1
R804 R805	Carbon Film 22 kohm 1/5 W J	3069223970 1 3069473970 1	1C504 1C505	DRAM, uPD61256-08 MC14094BCP		2138430001 2138009115	1
R806	Carbon Film 10 kohm 1/5 W J	3069103970 1 3069102970 8	IC506	LC7822		2168017139 2138007124	1
R807-R814 R815-R822	Carbon Film 47 kohm 1/5 W J	3069473970 8	IC507 IC508/IC509	TC9176P KIA4559P/KIA75559P, OP Ar	np	2168206104	2
R823 R825	Carbon Film 3.3 kohm 1/5 W J	3069224970 1 3069332970 1		TRANSISTORS			
R827-R831 R832	Carbon Film 100 ohm 1/5 W J	3069101970 5 3069102970 1	Q501 Q502	BKTA1266Y/KTA1015Y, PNP DTC114YS	i	2208206105 2208622106	1
R834/R835	Carbon Film 47 kohm 1/5 W J	3069473970 2 3069471970 1	Q503	DTA114YS, PNP DTC114YS		2208222105 2208622106	1 2
R836 R837	Carbon Film 1 kohm 1/5 W J	3069102970 1	Q506	KTC3198Y/KTC1815Y, NPN		2208606104	1
R838 R839	Carbon Film 47 kohm 1/5 W J	3069331970 1 3069473970 1	Q507 Q508L/R	DTA114YS, PNP KTD1302, NPN		2208222105 2208606112	1 2
R844/R845	Carbon Film 3.3 ohm 1/5 W J	3069339970 2	Q509 Q510	KTC3198Y/KTC1815Y, NPN DTA114YS, PNP		2208606104 2208222105	1
V TVI 004	MISCELLANEOUS Resonator, CST10.00MTW	3938131750 1	Q511 Q512	KTD1302, NPN KTC3198Y/KTC1815Y, NPN		2208606112 2208606104	1
X-TAL801 23(SW801)	Switch Push	4628054410 1	Q513	DTA114YS, PNP		2208222105 2208606112	1 2
27 28(SEN801	Remote Sensor, TFMT5380 (38 kHZ)	4658003710 38 2408005001 1	Q514L/R Q515	KTD1302, NPN KTC3198Y/KTC1815Y, NPN		2208606104	1
29(FIP801)		2328130301 1		RESISTORS			
PCB8	ASSEMBLY P.C. BOARD DOLBY		R501/R502 R503	Carbon Film 100 Carbon Film 10	ohm 1/5 W J kohm 1/5 W J	3069101970 3069103970	2 1
*****************	CAPACITORS	3479347041 2	R504L	Carbon Film 10	kohm 1/5 W J kohm 1/5 W J	3069103970 3069223970	1
C501/C502 C503L/R	Electrolytic SA 4.7 uF 50 V M	3479247971 2	R504R R505L/R	Carbon Film 22	kohm 1/5 W J	3069223970	2
C504 C505	Electrolytic SA 10 uF 50 V M	3479233971 1 3479210071 1	R506 R507	Carbon Film 1.5	kohm 1/5 W J kohm 1/5 W J	3069223970 3069152970	1
C507 C508/C509	Electrolytic SA 3.3 uF 50 V M	3479233971 1 3479347041 2	R508 R509	Carbon Film 750 Carbon Film 1.8	ohm 1/5 W J kohm 1/5 W J	3069751970 3069182970	1 1
C510		3479222971 1	R510		kohm 1/5 W J	3069392970	1

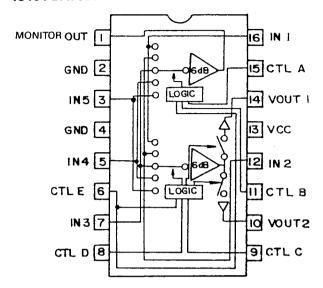
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R515 Carbon Film 100 John 11/5 W J 3089101970 1 R519 Carbon Film 100 John 11/5 W J 3089101970 1 R519 Carbon Film 100 John 11/5 W J 3089101970 1 R521 Carbon Film 100 John 11/5 W J 3089104970 1 R521 Carbon Film 6.8 John 11/5 W J 3089104970 1 R521 Carbon Film 6.8 John 11/5 W J 3089104970 1 R522L/R Carbon Film 6.8 John 11/5 W J 308962970 2 R523L/R Carbon Film 6.8 John 11/5 W J 308962970 2 R523L/R Carbon Film 56 John 11/5 W J 308960470 1 R525 Carbon Film 56 John 11/5 W J 308950470 1 R525 Carbon Film 100 John 11/5 W J 308950470 1 R525 Carbon Film 1 John 11/5 W J 308950470 1 R527 Carbon Film 1 John 11/5 W J 308950470 1 R527 Carbon Film 3.1 John 11/5 W J 308932970 1 R527 Carbon Film 3.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 8.2 John 11/5 W J 308932970 1 R523 Carbon Film 47 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 1 R524 Carbon Film 1 John 11/5 W J 308912970 2 R524 R524 Carbon Film 1 John 11/5 W J 308912970 2 R524								Version	
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R564L/R R565/R566 Carbon Film 2 kohm 1/5 W J One 3069202970 3 069101970 2 kohm 1/5 W J 3069222970 3069202970 2 kohm 1/5 W J 3069222970 3069101970 2 kohm 1/5 W J 3069222970 3069101970 2 kohm 1/5 W J 3069222970 3069222970 2 kohm 1/5 W J 3069222970 3069222970 3 kohm 1/5 W J 3069222970 3 kohm 1/5 W J 3069102970 3 kohm 1/5 W J 3069122970 3 kohm 1/5 W J 30691229									
R565/R566 Carbon Film 100 ohm 1/5 W J 3069101970 2 R567 Carbon Film 2.2 kohm 1/5 W J 3069222970 1 R568 LR Carbon Film 2.2 kohm 1/5 W J 3069222970 2 R568 LR Carbon Film 2.2 kohm 1/5 W J 3069222970 3 R572 LR Carbon Film 2.2 kohm 1/5 W J 3069222970 2 R573 Carbon Film 1 kohm 1/5 W J 3069102970 1 R574 Carbon Film 1 kohm 1/5 W J 3069102970 1 R575L/R Carbon Film 1 kohm 1/5 W J 3069102970 1 R576/R577 Carbon Film 1 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 200 kohm 1/5 W J 3069102970 2 W576/R577 Carbon Film 200 kohm 1/5 W J 3069102970 2 X-TAL501 Resonator, CST8.00MTW 3938131590 1 W501 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
R567			100	ohm	1/5 W	j			
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R572L/R Carbon Film 820 ohm 1/5 W J 3069222970 2 R573 Carbon Film 820 ohm 1/5 W J 3069821970 1 R574 Carbon Film 1 kohm 1/5 W J 30698102970 1 R575L/R Carbon Film 1 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 1 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 220 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 1 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 220 kohm 1/5 W J 3069224970 2 MISCELLANEOUS X-TAL501 Resonator, CST8.00MTW Semi Fixed Resistor, 10 k (B) R6501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 PCB9 ASSEMBLY P.C.BOARD HEADPHONE R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291 L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 LC1921 Lead Ass'y, 12P, 350 mm 435112353401 1 24(SW291) Switch Push 4628049310 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C.BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C.BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180 mm 436203183332 1			2.2	kohm	1/5 W	J			
R573 Carbon Film 820 ohm 1/5 W J 3069821970 1 1 R574 Carbon Film 1 kohm 1/5 W J 3069102970 1 2 R575L/R Carbon Film 1 kohm 1/5 W J 3069102970 2 2 R576/R577 Carbon Film 220 kohm 1/5 W J 3069224970 2 2 WISCELLANEOUS X-TAL501 Resonator, CST8.00MTW 3938131590 1 1 VR501 Semi Fixed Resistor, 10 k (B) 3248010343 1 1 W501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 1 PCB9. ASSEMBLY P.C.BOARD HEADPHONE 3029471570 2 2 R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 2 CN291 CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 2 CN291 Lead Assy, 12P, 350 mm 435112355401 1 4628043810 1 1 26 Jack, Phone 4628049210 1 1 4438005010 1 1 PCB10 ASSEMBLY P.C.BOARD VOLUME LED 2308220324 1 1 2308220324 1									
R5754 Carbon Film 1 kohm 1/5 W J 3069102970 1 R5754/R Carbon Film 1 kohm 1/5 W J 3069102970 2 R576/R577 Carbon Film 220 kohm 1/5 W J 3069102970 2 MISCELLANEOUS XTAL501 Resonator, CST8.00MTW 3938131590 1 VR501 Semi Fixed Resistor, 10 k (B) 3248010343 1 W501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 PCB9: ASSEMBLY P.C.BOARD HEADPHONE R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 CN291 CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Ass'y, 12P, 350 mm 43511235401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628043810 1 25(SW292) Switch Push 4628043810 1 26 Jack, Phone 4438005010 1 PCB10: ASSEMBLY P.C.BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 436203183332 1				Konm	1/5 \\	l I			
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R576/R577 Carbon Film 220 kohm 1/5 W J 3069224970 2				kohm	1/5 W	J			
X-TAL501 Resonator, CST8.00MTW 3938131590 1 VR501 Semi Fixed Resistor, 10 k (B) 3248010343 1 W501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 PCB9: ASSEMBLY P.C.BOARD HEADPHONE R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Assy, 12P, 350 mm 435112355401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C. BOARD VOLUME LED CNT581 Lead Assy, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Assy, 3P, 180mm 436203183332 1	R576/R577	Carbon Film	220	kohm	1/5 W	J	3069224970	2	
X-TAL501 Resonator, CST8.00MTW 3938131590 1 VR501 Semi Fixed Resistor, 10 k (B) 3248010343 1 W501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 PCB9: ASSEMBLY P.C.BOARD HEADPHONE R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Assy, 12P, 350 mm 435112355401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C. BOARD VOLUME LED CNT581 Lead Assy, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Assy, 3P, 180mm 436203183332 1		MICCELLANICOLIC							
VR501 W501 Semi Fixed Resistor, 10 k (B) CTB 0135 LV DIAMOND DL B#16 3248010343 4359855035 1 PCB9 ASSEMBLY P.C.BOARD HEADPHONE R295L/R R295L/R R295L/R CAP, Ceramic Tub 560 F pF 50 V J 3029471570 2 C291L/R CAP, Ceramic Tub 560 F pF 50 V J 35119561935 2 CN291 Lead Ass'y, 12P, 350 mm 43511235401 1 43511235401 1 24(SW291) 26(SW292) Switch Push 4628043810 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C.BOARD VOLUME LED 2008220324 1 CNT581 LED, SLC-22VRS, Green 2308220324 1 PCB11 CN903 ASSEMBLY P.C.BOARD SUB-WOOFER 2308220324 1	X-TAL 501		Τ\Λ/				3938131590	1	
W501 CTB 0135 LV DIAMOND DL B#16 4359855035 1 PCB9 ASSEMBLY P.C.BOARD HEADPHONE R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Ass'y, 12P, 350 mm 435112353401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1				i)				•	
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R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Ass'y, 12P, 350 mm 435112353401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C. BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1									
R295L/R RES, Metal Film 470 ohm 2 W J 3029471570 2 C291L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Ass'y, 12P, 350 mm 435112353401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C. BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1	PCB0	ASSEMBLYDORON	BL:ni	=ADDU	ONE		98026388830347863343484	gA18090	
C291 L/R CAP, Ceramic Tub 560 pF 50 V J 3519561935 2 CN291 Lead Ass'y, 12P, 350 mm 435112353401 1 24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10. ASSEMBLY P.C. BOARD VOLUME LED. CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1							3029471570	2	
24(SW291) Switch Push 4628043810 1 25(SW292) Switch Push 4628049210 1 26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C. BOARD VOLUME LED 2308220324 1 CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1		CAP, Ceramic Tub	560			J	3519561935	2	
25(SW292) Switch Push 4628049210 1 4438005010 1		Lead Ass'y, 12P, 350	mm						
26 Jack, Phone 4438005010 1 PCB10 ASSEMBLY P.C BOARD VOLUME LED CNT581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180 mm 436203183332 1									
PCB10 ASSEMBLY P.C.BOARD VOLUME LED. CNT581 Lead Assy, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Assy, 3P, 180mm 436203183332 1									
CN1581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180 mm 436203183332 1									
CN1581 Lead Ass'y, 2P, 180 mm, 2.5 mm Pitch 4358102184 1 LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180 mm 436203183332 1									
LED581 LED, SLC-22VRS, Green 2308220324 1 PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1	PCB10	ASSEMBLY P.C. BOA	RD V	TUME	LED		4250402404		
PCB11 ASSEMBLY P.C. BOARD SUB-WOOFER CN903 Lead Ass'y, 3P, 180mm 436203183332 1		Lead Assig , 2P, 180 n	rım, 2. en	o mm F	HCN				
CN903 Lead Ass'y, 3P, 180mm 436203183332 1	222001	LLD, OLG-ZZVING, GIE					2000220024	'	
CN903 Lead Ass'y, 3P, 180mm 436203183332 1									
				JB-WO	OFER		4262024022	1	
				kohm	1/5 W				
63 Jack RCA, 2P 4438111510 1						5			

IC FUNCTIONAL BLOCK DIAGRAM

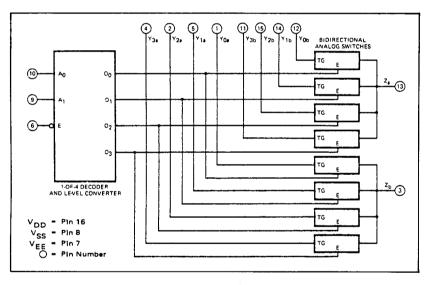
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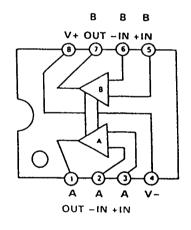
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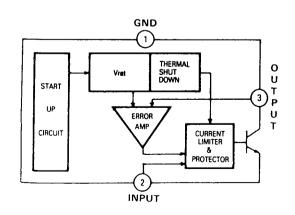
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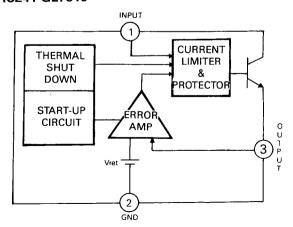
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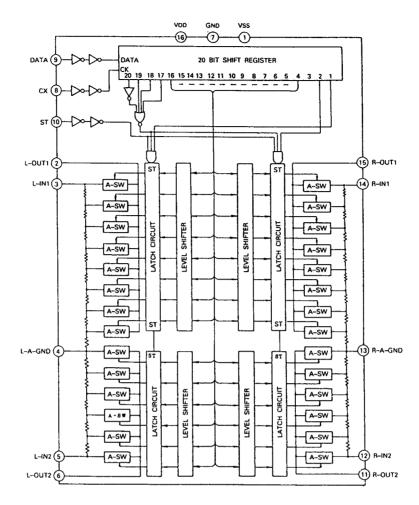
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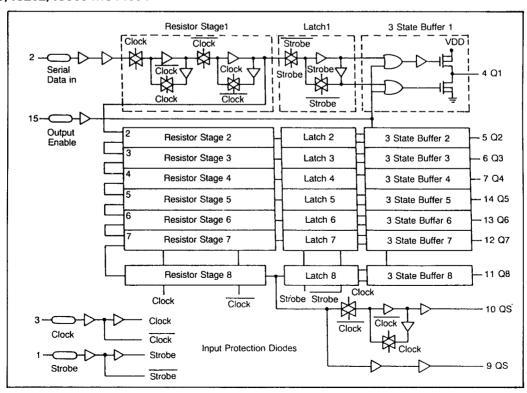
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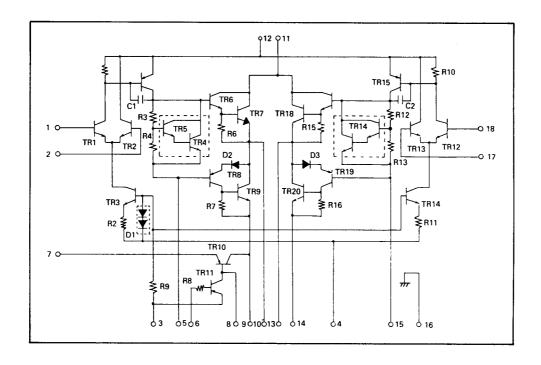
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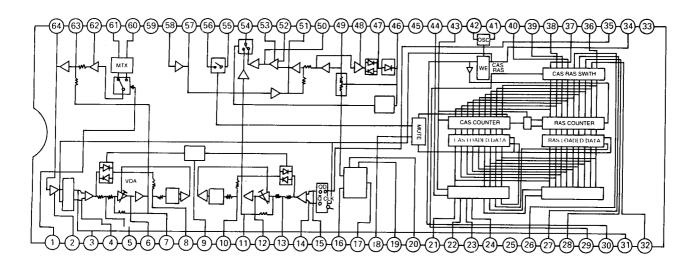
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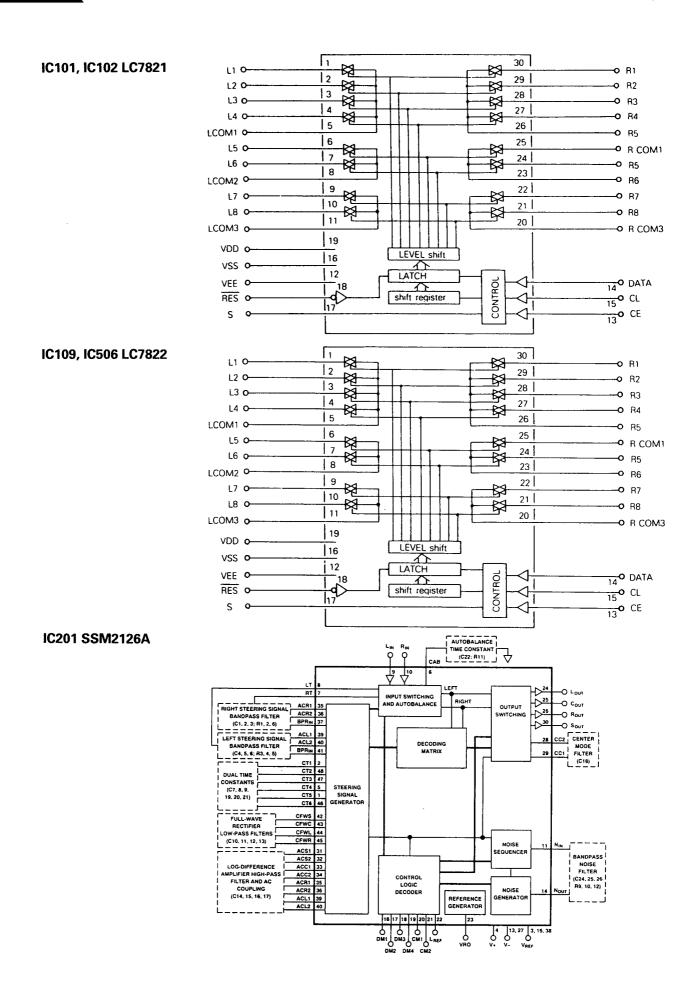


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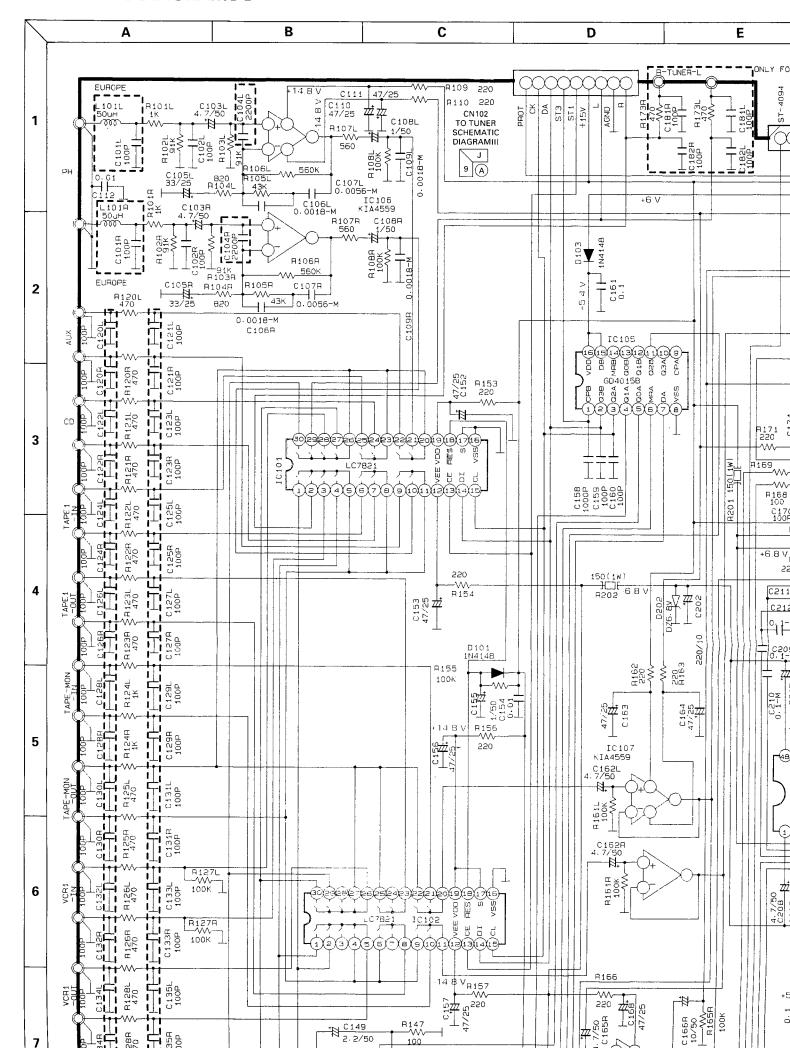


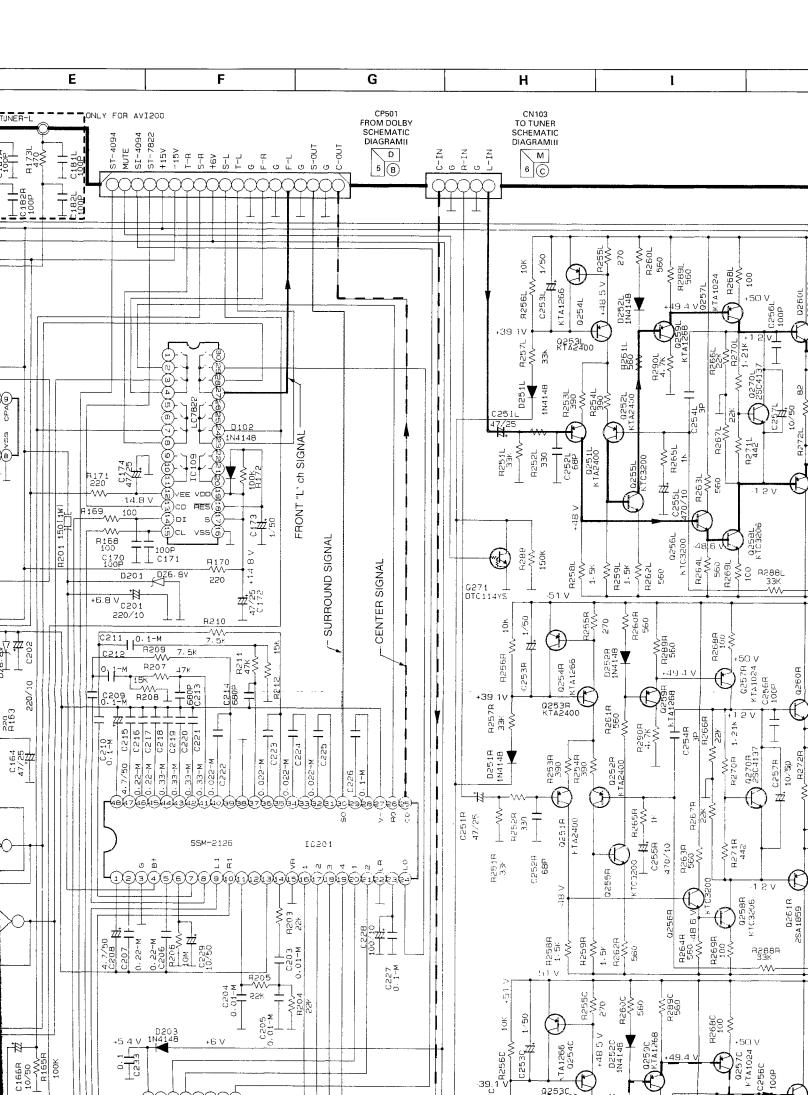
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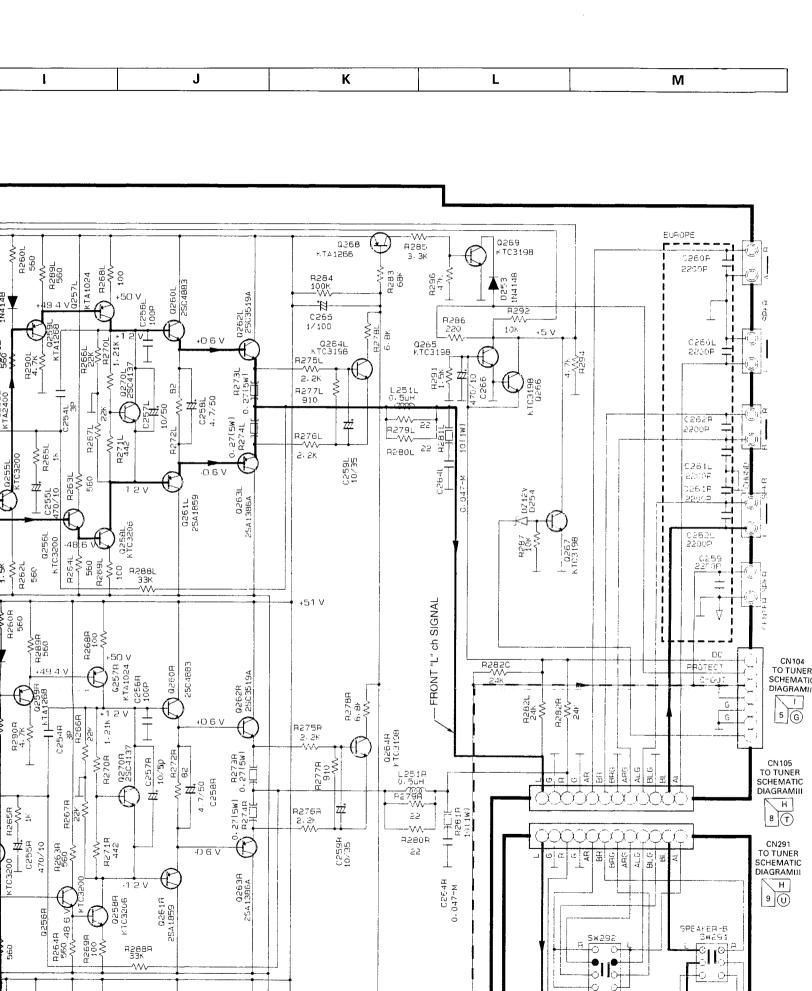




SCHEMATIC DIAGRAMS I







ENTER SIGNAL

SPEAFER-A

R295F

170 (2W)

560

0259C KTA126B

R2890

+49.4\

R2680

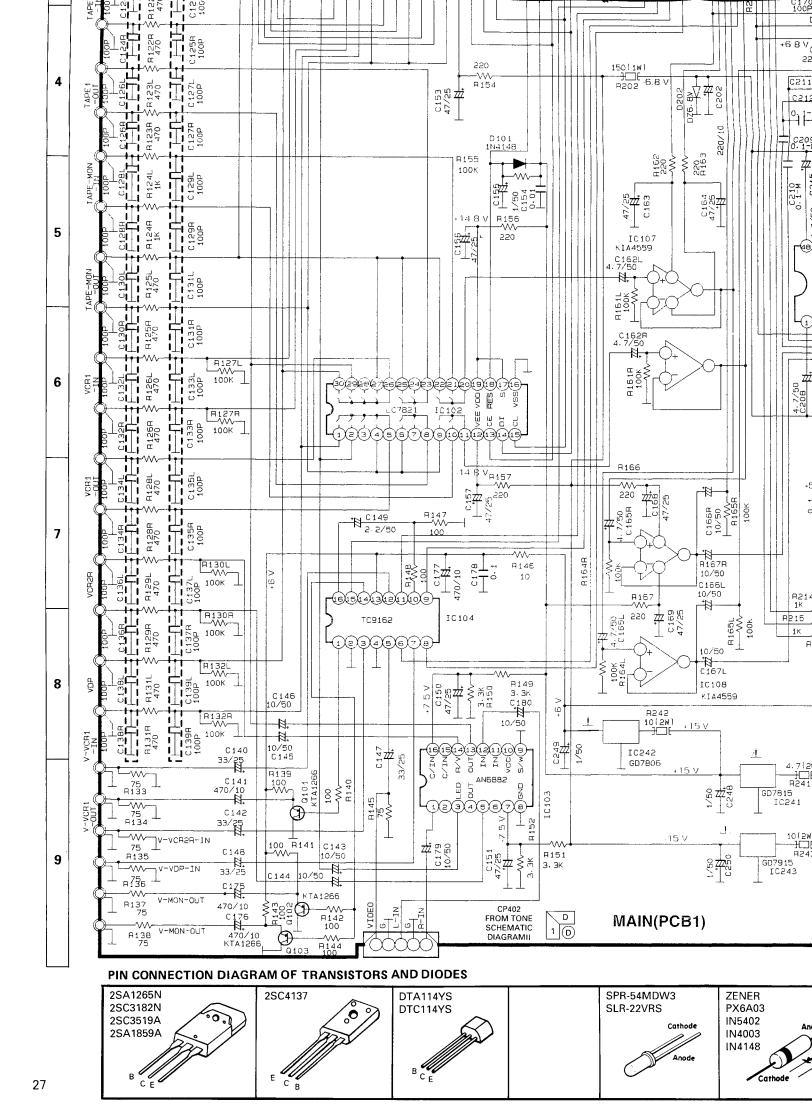
0257C 4 KTA1024 O

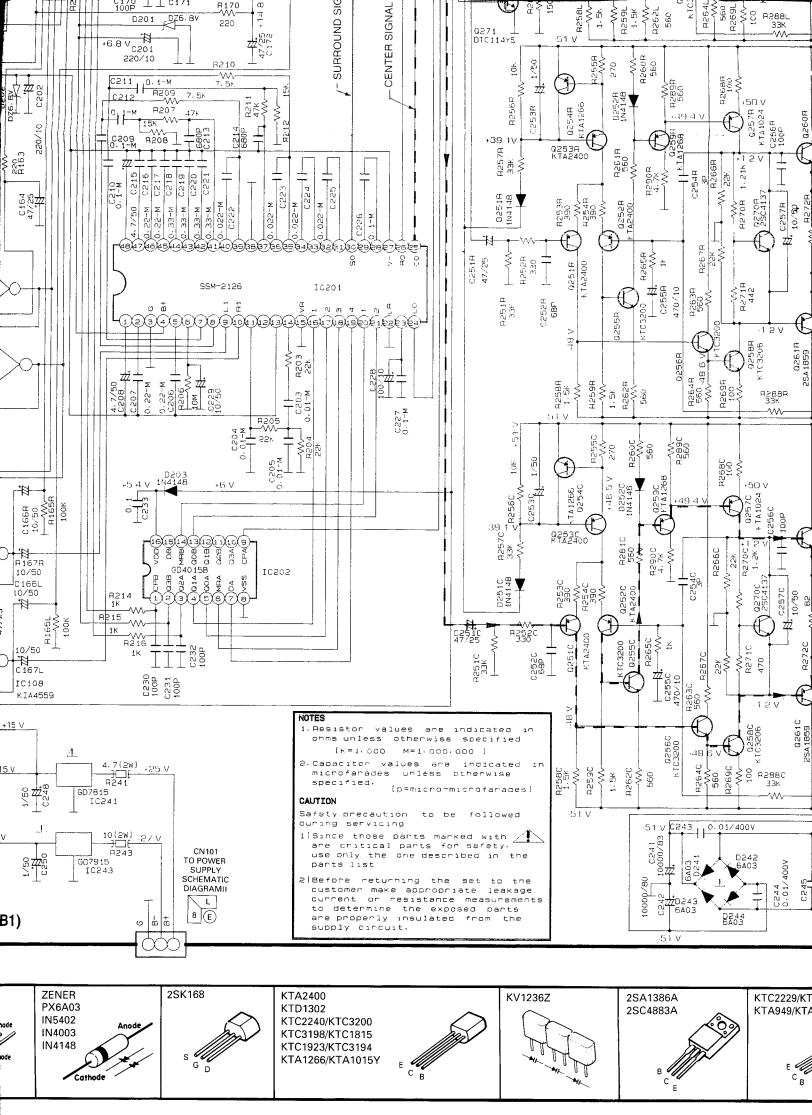
C256C

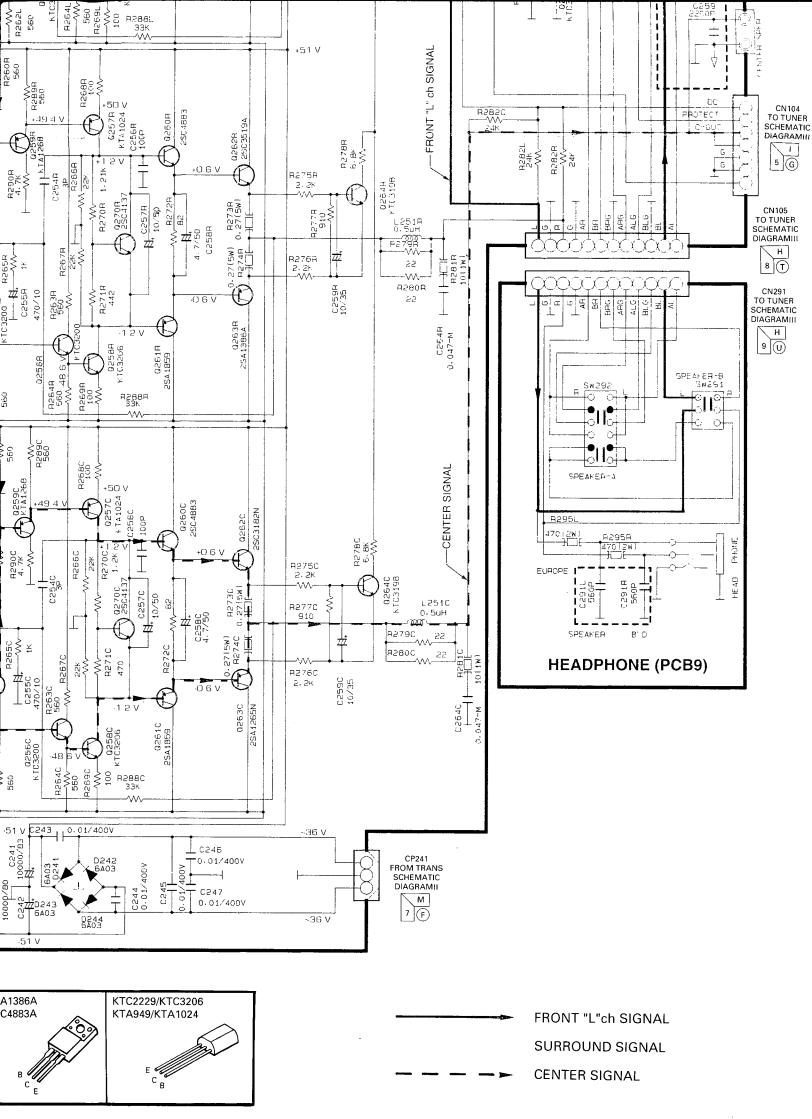
100P

0260C 2SC4BB3

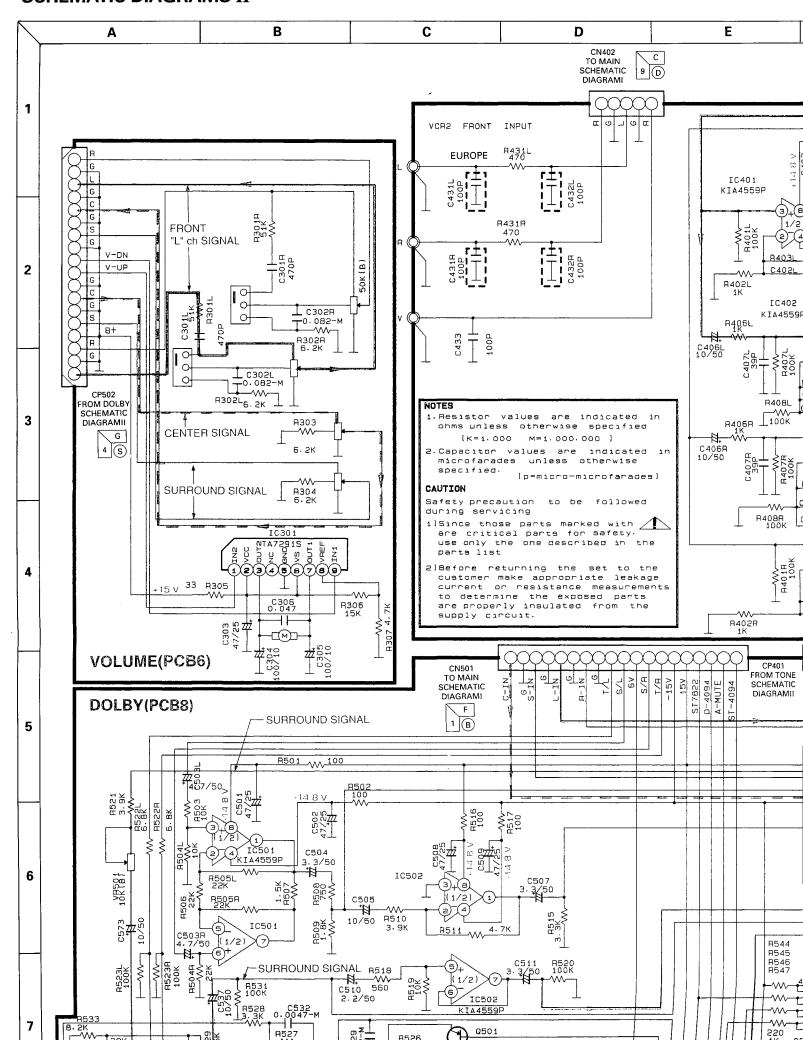
0262C SC3182N

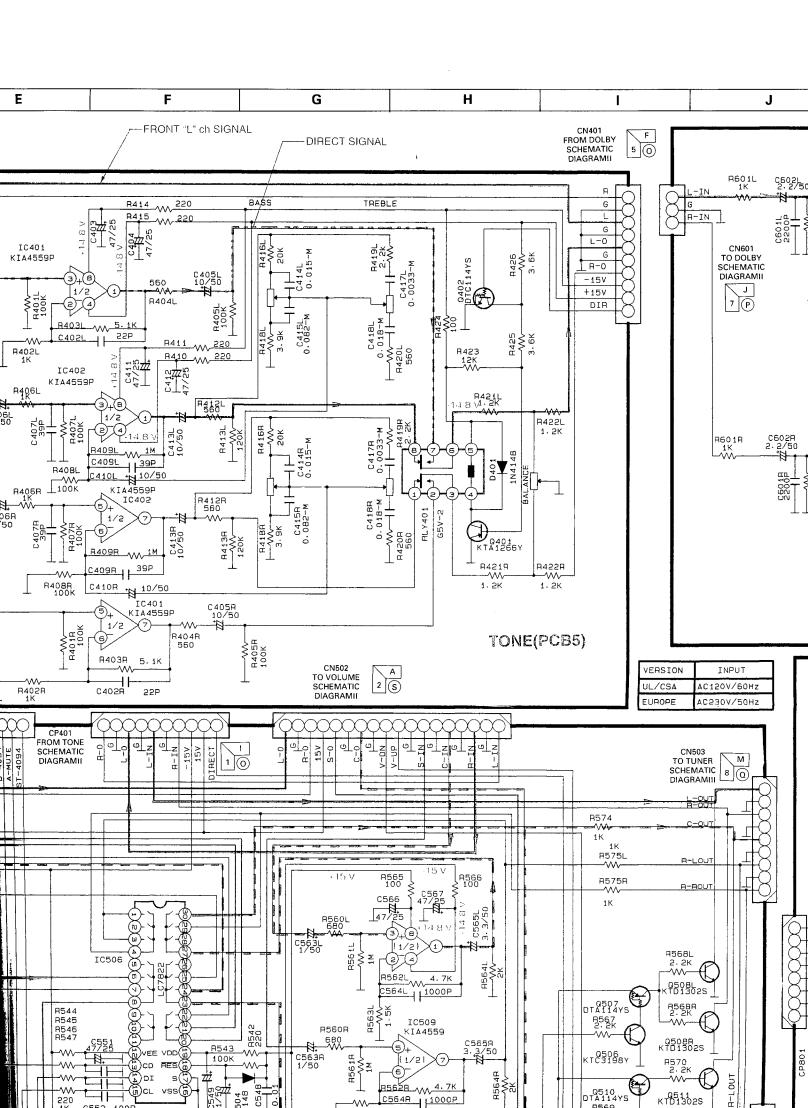


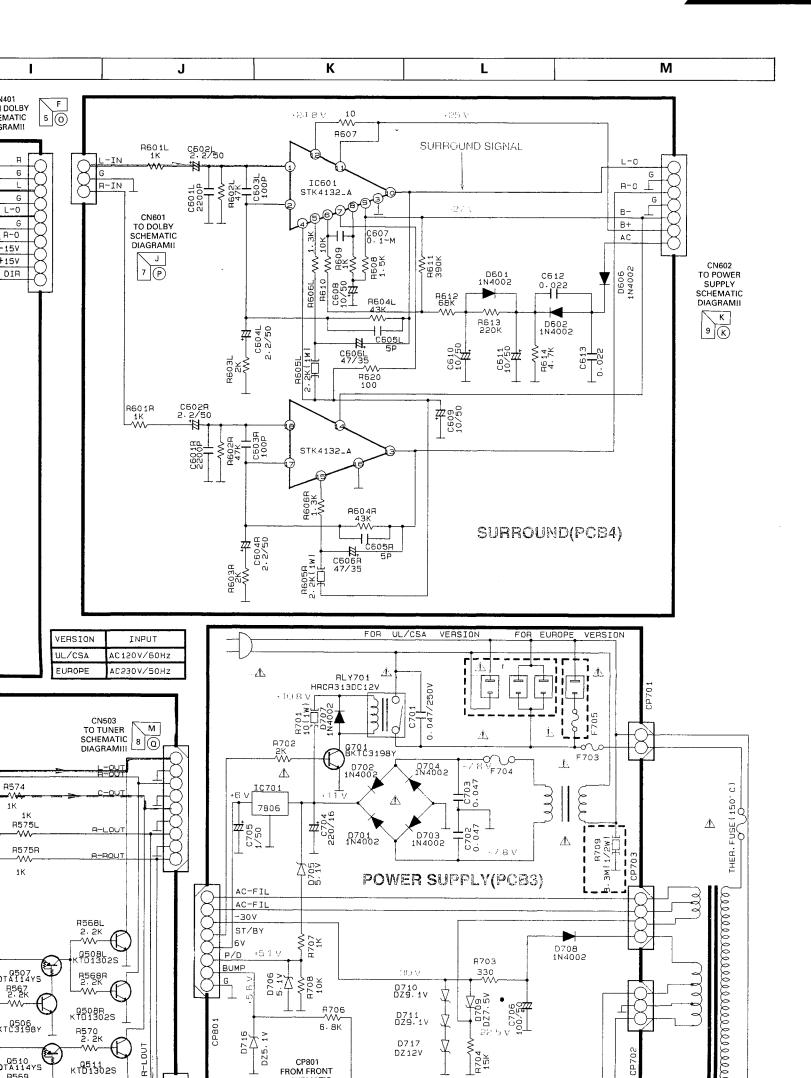


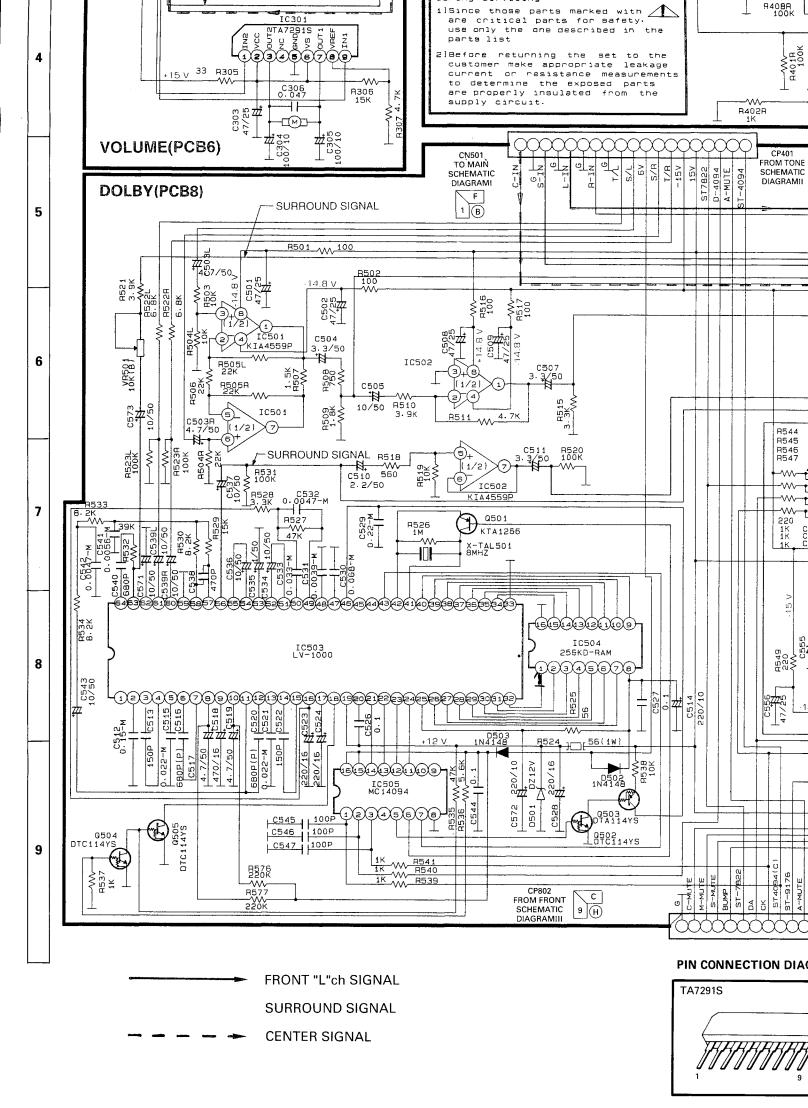


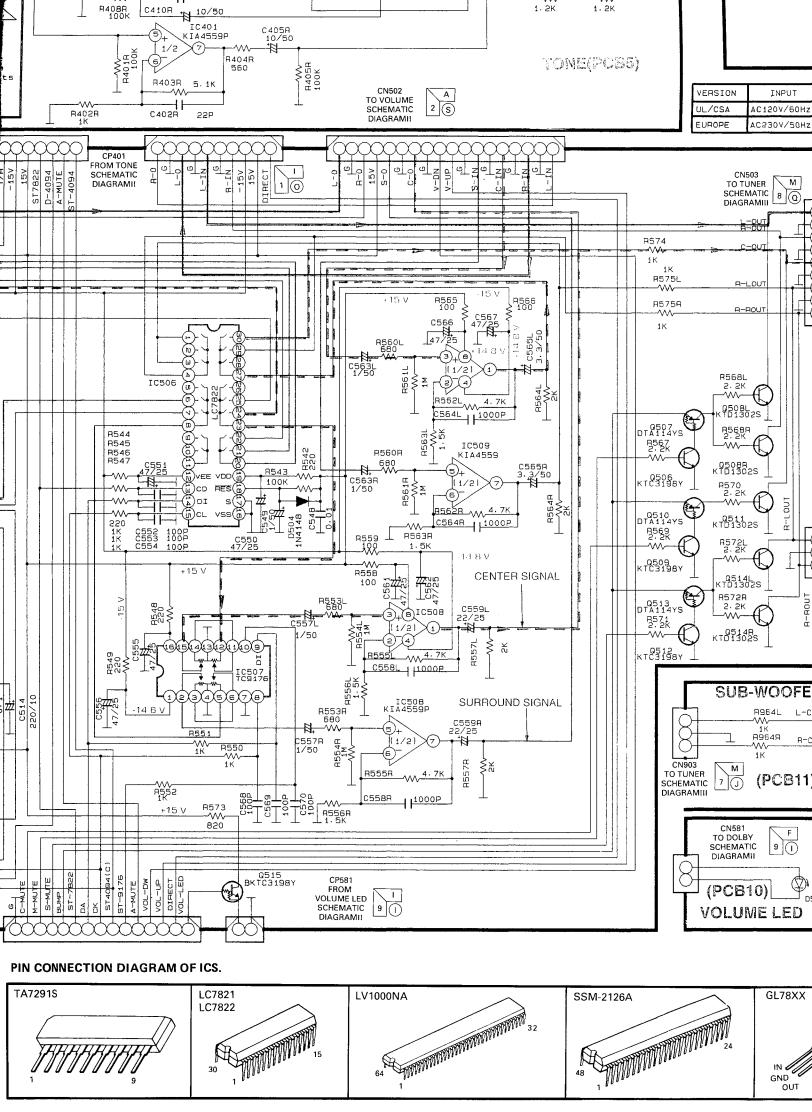
SCHEMATIC DIAGRAMS II

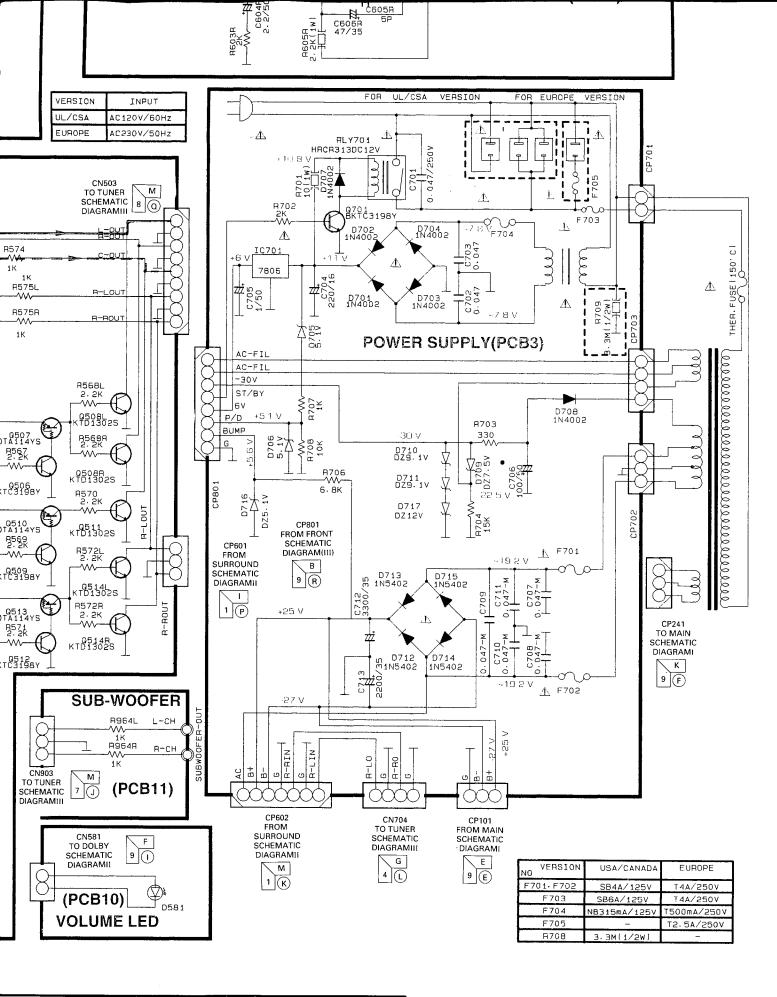


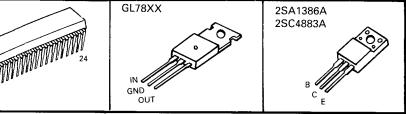




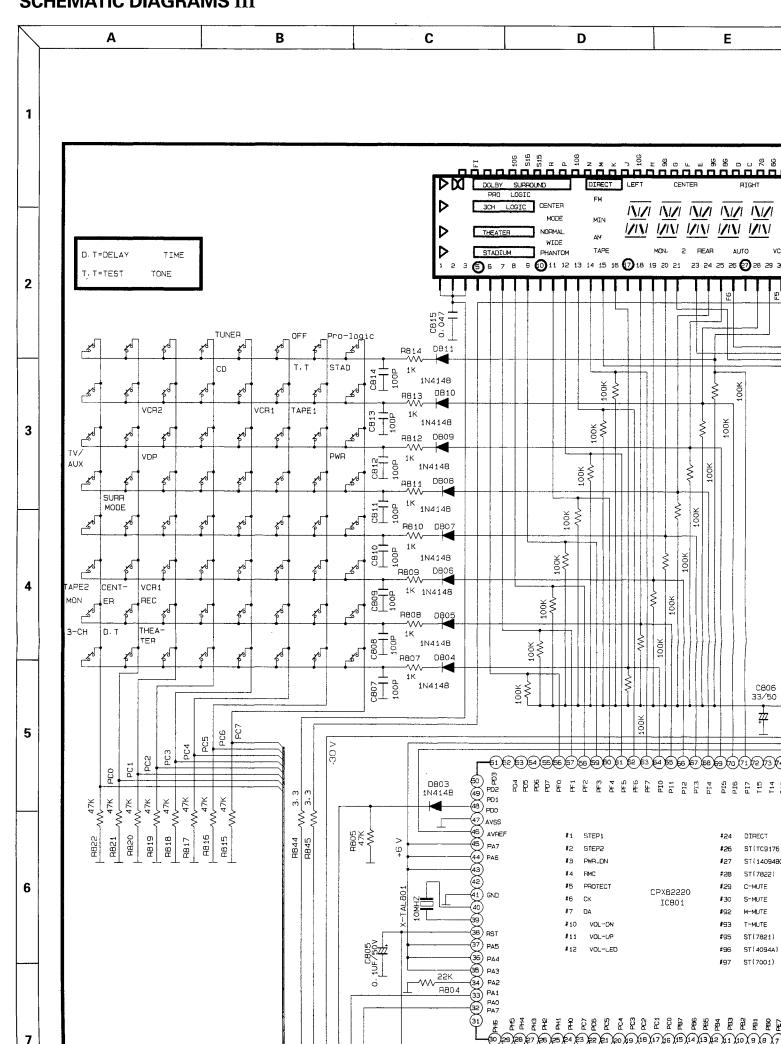


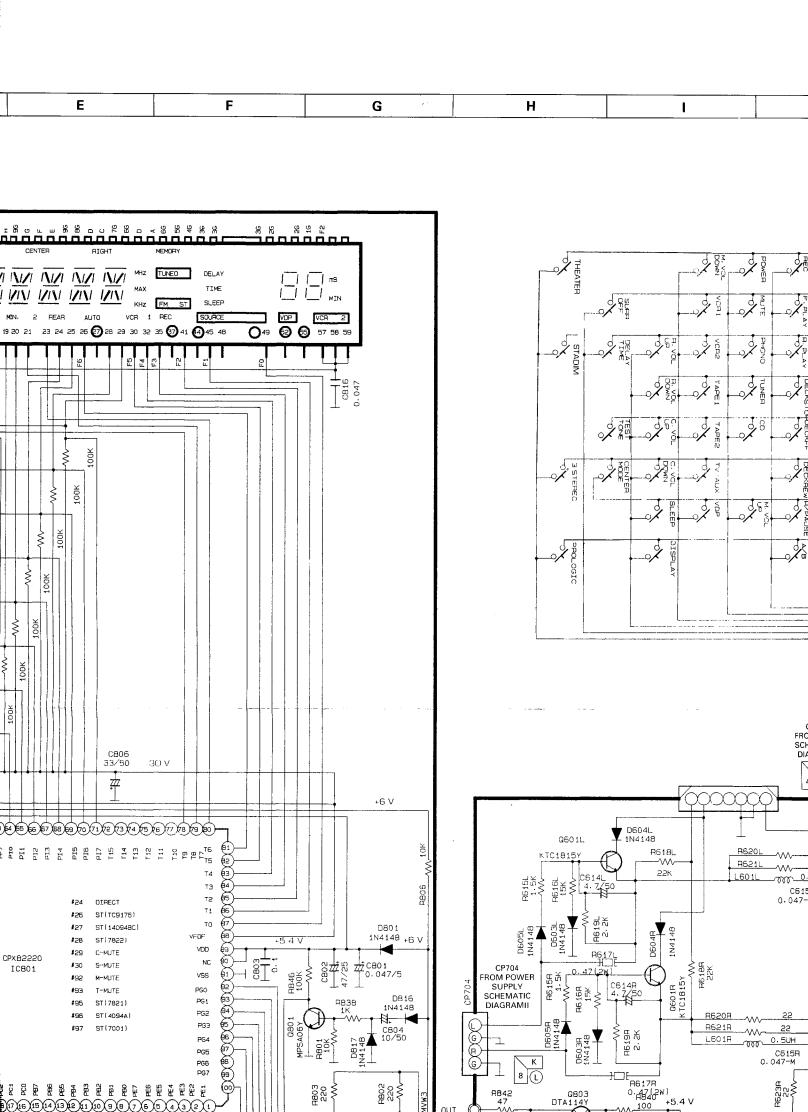




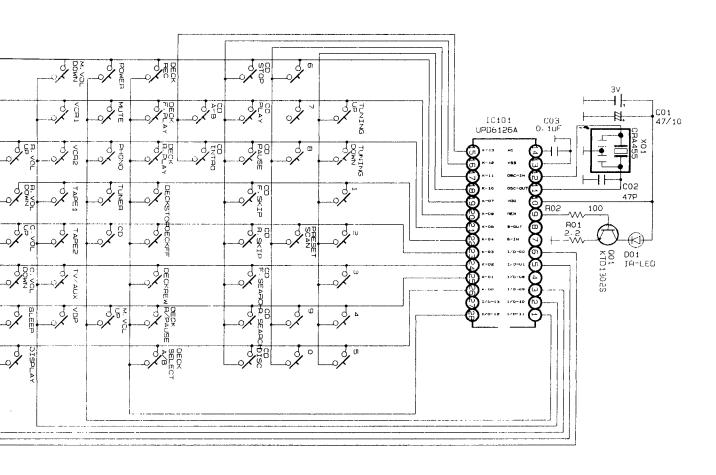


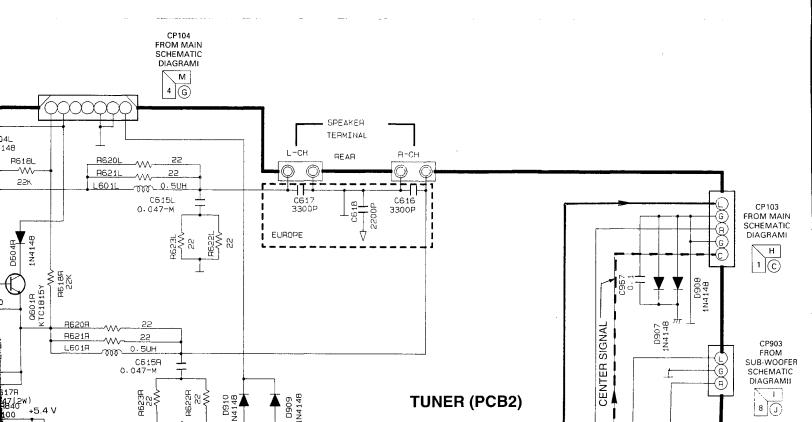
SCHEMATIC DIAGRAMS III

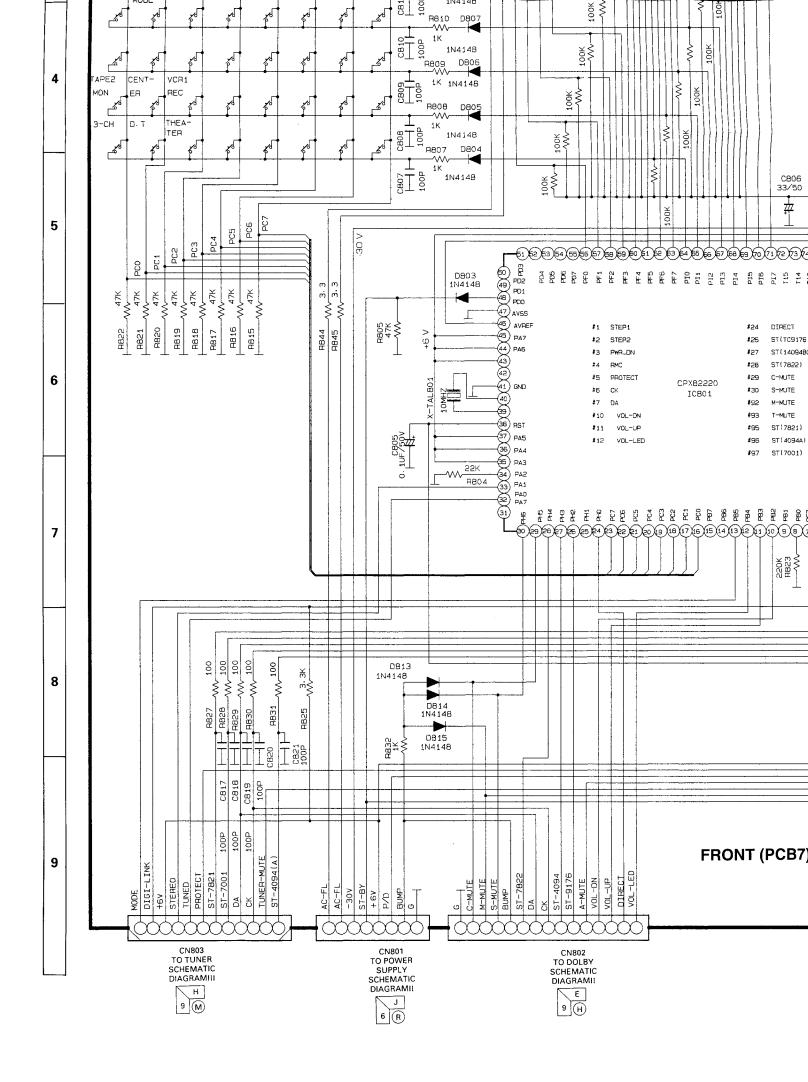


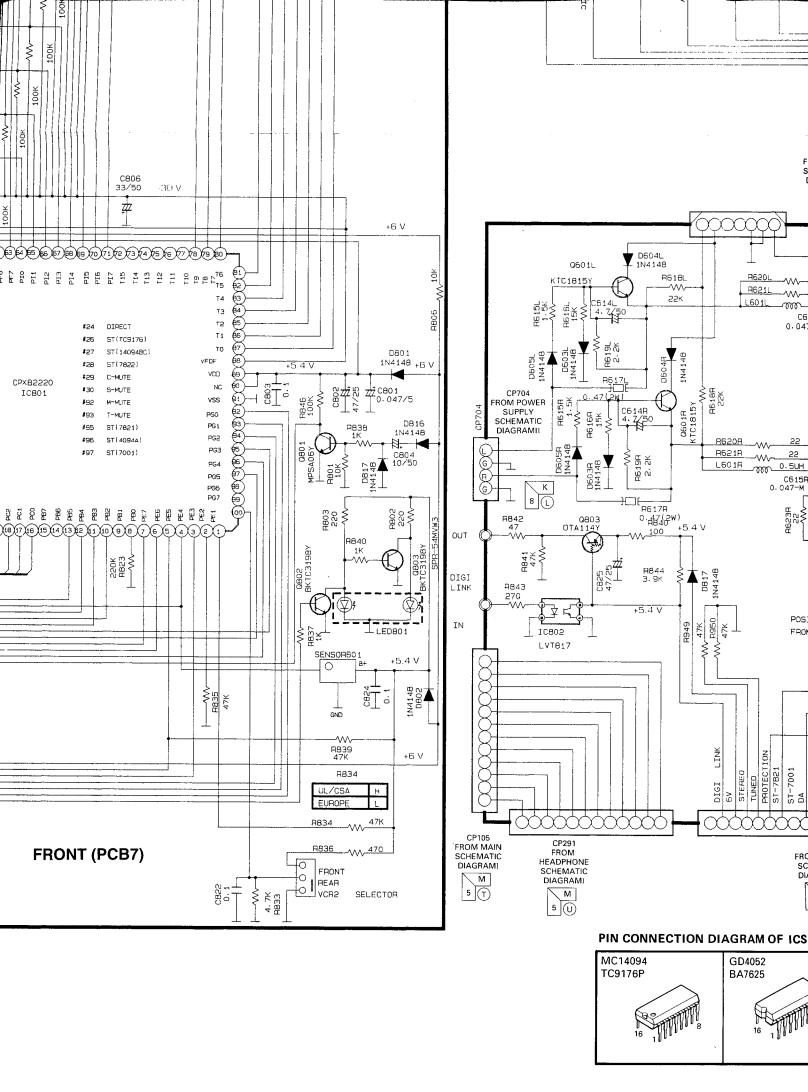


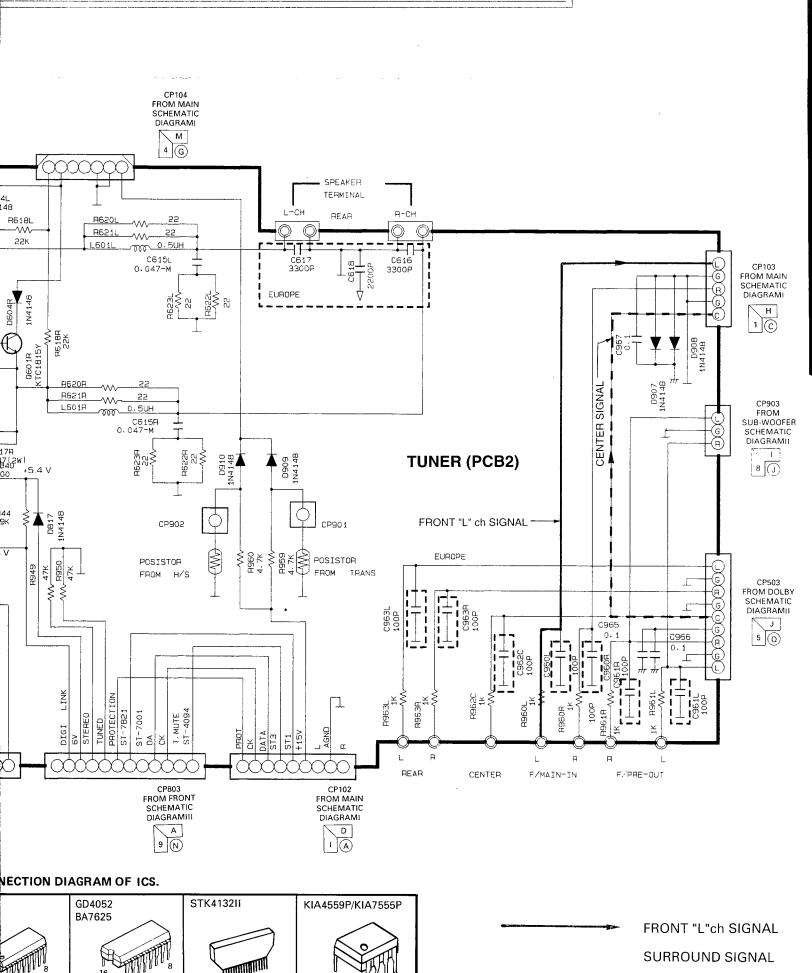
COMMANDER











CENTER SIGNAL

WIRING DIAGRAM

